

ENCYCLOPEDIA OF CHILD GUIDANCE

ENCYCLOPEDIA *of* CHILD GUIDANCE

Edited by
RALPH B. WINN



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P R E F A C E

THIS WORK was prepared under very considerable handicaps. War placed a heavy burden of responsibility upon the shoulders of all of the contributors. That they have nevertheless succeeded in completing their assignments is indeed a feat that merits my profound gratitude and admiration. Some of the contributors were prevented by army service from carrying on their work, and in two instances—those of Dr. M. A. Harrington and Dr. A. J. Rosanoff—death interrupted their labors well on the way. To these persons, too, I owe a debt of deep appreciation.

It is quite possible that in a volume devoted to so complex a field as child guidance—with its ramifications in psychology, psychiatry, pediatrics and medicine in general, hygiene, education, social work, dietetics, sociology, and even anthropology—some omissions will be pointed out, both in topics and in material discussed. However, the question of selection of entries, for which I alone must bear responsibility, is always debatable; as to content of various articles, the authors invariably exercised their free choice, and I found it on the whole wise.

New York City

THE EDITOR

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A

ABILITY. Talent or superiority in intellectual, artistic, social, or physical activities or in some particular type of endeavor. The term is sometimes used, in opposition to capability, as a special developed talent or general superiority.

See: **ARTISTIC ABILITY, GIFTED CHILD, LEADERSHIP, SUPERIOR CHILD.**

ACCELERATION. Definition: The interruption of schooling which faces great numbers of American youth through early induction into the armed forces, and the pressing need for technically trained persons in war work have stimulated efforts to shorten the time required for various curricula and training programs. Among the practices adopted for such acceleration are the elimination of vacations and the condensation of course content. These innovations should throw light upon the extent to which increased motivation can overcome or outweigh the advantages of distributed learning, and may eventually point the way to improvements in teaching methods. However, almost no data are as yet available for their evaluation. In any event, the changes have been in the nature of emergency measures and it is doubtful how far conclusions drawn from them could safely be applied to education in time of peace. Moreover, they have focussed upon acceleration at secondary and higher levels.

The general rate of progress through schooling in this country has also been questioned at times. American students are on the average from one to three years older than Europeans in entering upon advanced and professional studies. For this and other reasons, such educators as Elliot, Judd, and Hutchins have criticized the unnecessary prolongation

of elementary and "general" education to the postponement of specialized and technical.

In contrast to emergency measures of wartime and possible modifications in the organization of American schools, the continuing problems of acceleration center chiefly about the advisability of expediting the progress of selected pupils through the schools as they now exist, and more especially the first eight grades. In large city schools, acceleration of this sort may be effected in conjunction with ability grouping, with fast-learning sections covering certain grades in less than the usual time (2). Any school may advance individual pupils by means of double promotions or grade skipping. Certain communities also permit bright children to enter first grade from six to twelve months under their sixth birthday (10). Regardless of how effected, a pupil may be defined as accelerated if he has completed a given grade at less than the normal age; as for example, one who finishes twelfth grade under seventeen and a half to eighteen years old.

Opposition to Acceleration: Acceleration has never been practiced on a scale commensurate with its possibilities. Exceptionally bright children are quite as numerous as the exceptionally dull, and achievement far above average for a grade is as common as that far below. Nevertheless, and despite constant efforts to reduce non-promotions, large scale surveys show five times as many pupils retarded as accelerated (5). For a decade or more, opposition to rapid advancement has even been especially strong (3). This may be traced in part to mistakes of early enthusiasts. The first lay in thinking of education in terms of a body of information and skills to be acquired. The curriculum thus became a race-

course, which is the literal meaning of the Latin word; and the faster any pupil could "cover the ground" the better. The introduction of intelligence tests gave rise to a second error, in the assumption that grade placement should be based upon mental age alone. Ill-advised attempts to place ten-year-olds with a mental age of fifteen, for example, among normal fifteen-year-olds resulted in acute social maladjustments and the exploitation of certain "child prodigies." The reaction against such excesses has led to an impression that all acceleration is undesirable. In the view of some extremists, grades should be determined wholly by chronological age, and even the most gifted held to regular promotion on this basis.

Bases of Evaluation: The modern school aims not merely to inculcate knowledge and skills but to provide an environment and experiences favorable to the child's total development, physical, mental, social and emotional. The advisability of acceleration for any individual must therefore depend upon the extent to which it makes for his or her general adjustment and the cultivation of desirable abilities. Despite impressions to the contrary, the evidence of research to date is almost wholly favorable to more rapid advancement in the case of children whose intellectual and other development is far in advance of their age group.

Those cities which provide special sections for the intellectually gifted (for example, IQ's above 125 or 130) make it possible for these to engage in work of a type and tempo suited to their capacities along with others of their own chronological and mental age. Many problems of social adjustment are thereby avoided. Even where acceleration entails placement among older classmates, however, the advantages appear to outweigh the drawbacks. A review of the literature on grade-skipping through 1932 led Witty and Wilkins to the conclusion:

"Only a few studies are reported, but every one of these seems to indicate that acceleration, when practiced wisely, that is, when a sufficient number of factors is taken into consideration, does alleviate somewhat the problem of the gifted child. . . . Most reports show clearly that acceleration is as-

sociated with desirable adjustment in all types of development for which data have been assembled" (9, p. 344). Subsequent investigations have tended to the same conclusion.

Relation to School Achievement and Life Success: Rapid advancement appears to favor better study habits (3). Enrichment of instruction is widely recommended as an alternative to acceleration, but placement in a more advanced class is the simplest means of insuring work which is richer in content and method. The better adjustment of tasks to abilities is a challenge to interest and application, which may have far-reaching results. Persons in WHO'S WHO are found to have graduated nineteen months younger than their college classmates; and the boys among Terman's youthful "geniuses" whose later careers have proved especially successful completed eighth grade three months younger than did those whose accomplishments have been most disappointing. (National Society for Study of Education, *Thirty-Ninth Yearbook, Part I*, 1940, p. 79).

Repeated surveys have established that the younger the age of admission to college, the higher are the grades earned and the longer the average stay (6). Those entering two years under age appear twice as likely to obtain six years of collegiate and professional training, and they complete this at an age younger than that at which most graduates receive their B.A. (3). Signal honors of all kinds are twice as common on the part of those entering at sixteen or younger. Even when compared with control groups of the same outstanding intelligence, the younger equal or surpass the older (1, 3, 4). Young high school entrants make a similar showing (2, 3, 10).

Health and Physical Development: No indications have been found that acceleration is detrimental to physical development, health, or eyesight (1, 3). By reason of the correlation existing between mental and physical development and the weight given physical factors in selecting for promotion, the under-aged as a group are distinctly larger and stronger than average. Even so, it is remarkable that most studies have found the young boys winning their full share of athletic honors, when compared with men of equally high

intelligence but normal age (1, 3).

Personality and Social Adjustment: Most objections to placing a child in an older group are based on fear of social maladjustment. There is doubtless some risk, particularly when the difference in age becomes excessive. Among bright high school and college students two years under age, the great majority regard their social relations as satisfactory, but about one in five reports difficulties in this regard. What is often overlooked is the fact that the exceptionally bright individuals who remain in classes of their own chronological age show a similar percentage of maladjustment or unhappiness.

Investigators have consistently failed to discover significant differences in the personality and emotional traits of accelerated and control groups (2, 3, 8). Case histories suggest that the individuals whose adjustment has been markedly improved by acceleration are more numerous than those who have suffered from it. Students who are both bright and accelerated show large majorities in favor of the practice. Those with whom it has worked badly are largely cases in which ambition, parental pressure, or excessive concentration upon scholastic achievement has brought undue advancement to individuals of very mediocre ability. In one California city, two-fifths of the pupils completing high school three semesters under age were found to have IQ's under 120 and often below 100. The serious behavior problems uncovered were traceable to this group (3).

Most comparisons show the underaged playing a greater than average part in student activities as a whole, though the evidence is conflicting as regards social fraternities, major athletic teams, and college dramatics (1, 3, 7, 8). Those whose mental development is in advance of their age usually prefer older companions, and the very bright who are placed in classes a year or two older are elected to important student offices more often than the equally gifted who remain at age for their grade (1, 3, 7). Bright girls entering college two years younger than average appear to marry in greater numbers and earlier than other co-eds (3). In all, the indications are strong that, far from acceleration making for maladjustment, the boy or girl of un-

usually high intelligence is more likely to achieve appreciation, liking, and social recognition when among classmates somewhat older and so more nearly on his own mental level.

Principles Governing Acceleration: Rapid advancement is primarily an aid to adjustment of the intellectually gifted and the realization of their potentialities for society. As such, the first consideration has long been intelligence. Acceleration by more than a single semester should be unnecessary in the case of children whose IQ is less than twenty points above the average of their grade group; adaptation to individual differences within the class should suffice. For children above 140 or 150 IQ, the findings point toward entrance to college as young as the sixteenth birthday, or up to two years accelerated, if other factors are favorable. For those rare individuals with quotients over 170, where no other special provision is available, an even greater advancement may be wise. In general, girls respond more advantageously to extremes of acceleration than do boys, probably because of their earlier physical and social maturity.

Fully eighty per cent of all acceleration occurs within the first eight grades (3). It is here that the need is greatest; the high school offers other opportunities for enrichment, through differentiated curricula and student activities. In university, those whose advancement took place on the elementary level have shown to better advantage than those who gained time in high school (7). Adjustment to new classmates is made more easily before friendships and cliques are too strongly established; and there is less danger of important content being permanently missed when a lower grade is passed over.

In selecting children for special promotion, health and physical development in relation to age norms for height, weight, strength and sexual maturation should receive careful consideration. Social adjustment in an older group is made easier when the pupil is not conspicuously smaller than his mates. But any grade or age group will include a wide variation in size and physical maturity, particularly in the junior high school years; and the gifted average heavy and strong for their age, and slightly earlier in reach-

ing adolescence.

Class work and standing on objective tests of achievement are not likely to be overlooked. Conscientious teachers are concerned to make sure that important subject matter of the grade to be omitted is covered, though children given special promotion usually test far above average for the grade to which they are being sent.

Social and emotional maturity deserve a weight second only to measured intelligence. Unfortunately appraisal of these traits is still on a highly subjective basis, depending frequently on instructor's judgment alone. There is doubtless substantial correlation with mental development in general; but in the absence of accepted criteria, most educators prefer to err on the side of conservatism. While awaiting more conclusive experimental evidence, the present consensus is strongly against acceleration of more than five semesters in all below college.—N.K.

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See: EDUCATION, GIFTED CHILD, SUPERIOR CHILD.

ACCEPTANCE. Acceptance as used in child guidance refers to the acceptance of a child by its parents. It is usually contrasted with rejection. Acceptance refers to the positive and constructive attitude, feelings, and behavior of a parent toward a child, and has considerable significance in helping the child achieve a measure of emotional security and develop its traits of personality. Parental acceptance refers fundamentally to the feeling that a parent has for the child, which will show itself in parental attitudes and behavior.

Following are some of the common ways in which parental acceptance is expressed. Parents who accept their children find pleasure in them and express that pleasure in word and in deed. They praise their child to others. They enjoy doing things with the child, and take interest in his growth and development and in his pleasures and achievements. The accepting parent provides adequate care and protection for his child. The accepting parent is generous. The accepting mother is generous with her milk following birth, and takes pleasure in sharing experiences and benefits with the child. The accepting parent shows his fondness for the child by tokens of affection through physical contact—he expresses fondness through stroking and petting. The accepting parent is encouraging and shows appreciation for every step in growth and achievement that the child takes.

The accepted child in general tends to show a number of admirable characteristics. He tends to be socialized, and, in turn, makes himself acceptable to others. He tends to be co-operative in social undertakings. The accepted child tends to develop good moral character, and is honest, dependable, and truthful. The accepted child tends to be stable, is calm and deliberate in bearing, and is not readily excited or confused when under stress. The accepted child evinces enthusiasm in any activity in which he is engaged. In

general, he is careful of the property and comfort of others. And the accepted child tends to feel in harmony with these behavioral trends. He is secure and self-confident, and does not indulge in self-pity. He tends to be cheerful and optimistic. He evaluates himself realistically—neither overestimating nor underestimating himself in relation to others. The accepted child tends on the whole to be contented and happy. These, of course, are general statements which apply to the typical case, but which permit considerable variation in individuals.

Accepting parents tend on the whole to be well adjusted. Their marital relationships tend to be harmonious and satisfying, and they bring from their childhood personalities which are normal rather than neurotic. The parents who accept their children treat their children objectively, and are not forced to use their children as a way of working off some of their own unmet needs.

—P.M.S.

Symonds, P. M.: *The Psychology of Parent-Child Relationships*. D. Appleton-Century Co., 1939.

See REJECTION.

ACCULTURATION. A process of assimilating the cultural heritage of one's group or society. The pattern of acculturation, in each particular family, displays general aspects characterizing one's community in the larger sense, such as language or national mores, as well as specific aspects cutting across the broader phases of culture, such as the family's religious, educational, economic, or professional background.

See: CONFORMITY, CULTURE CONFLICT, EDUCATION, MATURATION, RACIAL DIFFERENCES.

ACHIEVEMENT TESTS. An achievement test, although designed primarily to measure proficiency, is by necessity an index of one's aptitude as well, for one cannot attain any great proficiency without some aptitude for the subject measured. Achievement tests find their greatest use in industry and education. In industry, they are frequently referred to as trade tests. Trade tests usual-

ly make use of either picture material of various tools, etc., or of actual tools and material; the testee is expected to turn out the designated product.

School achievement tests measure the students' actual level of scholastic attainment. Some achievement tests are designed to measure only one aspect of academic proficiency, such as arithmetic, reading, geography, etc. Frequently, however, an achievement "battery" in the form of one booklet may be used. The results of such tests are commonly expressed in terms of Grade Status, Educational Age, or Achievement Quotient. (The A. Q. is found by dividing the Achievement Age, A. A., by the Mental Age.)

The use of standardized objective material enables the teacher to gauge the progress of her own class, as well as that of the individual pupil. Such tests may also be used as diagnostic tools, where a subject disability is suspected.—H.S.

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ADJUSTMENT. One's adaptation to general social conditions or to specific environmental requirements. It presupposes usually a certain flexibility of behavior. Adjustment is opposed to maladjustment which may be caused by unfavorable home influences, economic handicaps, inferior social status, physical defects, etc.

See: ASCENDANCE - SUBMISSION, CHILD DELINQUENCY, CONFORMITY, EXTROVERSION, INSECURITY, INTROVERSION, PARENT CHILD RELATIONS, SELF-RELIANCE.

ADOLESCENCE. Considerable difficulty has been experienced in defining adolescence. The more common definitions are based on an age range such as the period of life between puberty and maturity, which in boys is often taken

as the period between 14 and 25 and in girls between 12 and 21 years of age. In more popular terms, it is often defined as "the teen age."

There are several limitations to this type of definition. In the first place, the age at which the overt signs of puberty appear, such as menstruation in the female, and pubic hair, axillary hair and other secondary sex characteristics in the male, varies greatly. Recent analyses of data relative to the physiological maturity in girls in the United States indicate that by 12 years of age 40% of the girls have reached the stage of maturity represented by menstruation, and that the age in individual cases may vary from before 8 to beyond 18. It should also be recognized that the usual indices of puberty, namely, menstruation for girls and the development of pubic hair in boys do not necessarily indicate that the organism has achieved the capacity for reproduction. There is some evidence, for example, that in individual cases ability to conceive may not develop until some time after the first menstruation.

Similarly, the concept "maturity" or "adulthood" varies greatly from culture to culture. The requirements for maturity in some tribes are relatively simple and therefore can be satisfied relatively early in life. In some primitive tribes the practice has been followed of initiating a child into adulthood in a period of weeks or perhaps months. On the other hand, the achievement of maturity in a complex culture may require a decade or more.

In view of these difficulties, some writers have suggested that adolescence be defined in terms of the nature of the behavior which develops as the individual passes from childhood to adulthood.

A further factor which must be taken into account is that within the last decade, the latter part of the teen age and the first half of the twenties have been grouped together under the term "youth" and special attention has been given to this age period. In some cases, the terms "adolescent youth" and "later youth" have been used.

As a working concept, it seems helpful, in view of these problems, to define adolescence as the period during which the reproductive functions mature, and

during which such patterns as finding a vocation, mating, and developing the beginnings of a philosophy of life rise to a level of major importance. Such a definition does not specify any age range and thus allows both for the considerable variation in physiological development and the variations in the requirements for maturity from culture to culture.

In discussing the significance of adolescence, it is helpful to distinguish the significance which has been attached to it by the general population and that indicated by scientific investigations. From early times, it appears that considerable attention has been given by society in general to the adolescent period. Evidence of this can be found in the history of cultures and in their literature, including poetry and song. For a critical analysis of the significance of this period, however, we must turn to the scientific investigations. Here a most interesting trend can be discerned. Under the stimulus of G. Stanley Hall, at the turn of the century numerous investigations in the development of adolescents were made. These early investigations laid much stress upon changes which characterize this age period. They emphasized especially physical changes, but also gave some attention to changes in interests and the like. These investigators seemed so impressed with their findings that they characterized adolescence as a period of great change — a period of "storm and stress." The annual increases in height and weight, for example, were pointed to as indicating that the adolescent period is one of rapid change. Similarly, changes in interests were referred to as signifying a "new birth."

During the third and fourth decades of the century, however, a great expansion in investigations of infancy and childhood took place. Among other things these investigations indicated that much larger changes, even in absolute terms, occur in many aspects of growth during the early years of the individual's life history. Data relative to growth in height, for example, have indicated that on the average under present conditions a child may gain as much as eight or nine inches during the first year but that on the average the increase during the period of most

rapid growth during adolescence reaches but three inches. When it is recognized that these are absolute figures, and that, relatively, the eight inches during the first year are added to a much smaller organism than the three inches during adolescence, it seems evident that it is more appropriate to consider the early years as a period of rapid growth than to ascribe that characteristic to adolescence. Similarly, when an analysis was made of the problem of attaining independence, it became clear that this is a problem which the child faces at five years and even before. The child is continually learning to do things for himself and to think for himself. There is no "re-birth" in this respect at adolescence: there is merely continued growth. These findings tended to turn attention from the adolescent period to the earlier years.

During the fourth decade of the present century, however, some events occurred which brought about a more realistic approach to the problems of adolescence. During the depression of the early thirties, vast numbers of boys and girls were unable to find employment and other satisfying forms of activity. There resulted a wave of dissatisfaction among the youth which evidenced itself in the migration of large numbers of young people from one community to another. The problem of securing a vocation and becoming established in it became not only an individual problem, but also a social problem. During this time, the more critical investigations in the intellectual, emotional and social development of adolescents helped to reveal the complexity of the problem of meeting the intellectual, personal and social needs of adolescents. In 1935, an American Youth Commission was appointed by the National Council on Education to study youth problems on a national scale. This commission carried out extended studies of the attitudes and behavior of young people and investigated such problems as finding a vocation, preparing for marriage and parenthood, and taking part in civic activities.

At the present writing, we appear to be in a stage of continued critical analysis of the problems of adolescence. It is becoming apparent that a thorough analysis must be made if we are to

understand the needs of the adolescent and to develop means by which these needs can be met. The importance as well as the fruitfulness of such an approach is perhaps best illustrated by the problem of becoming vocationally established. The significance of this problem, both to the individual as a method of meeting the needs of status, self-respect and security and to society which requires responsible and contributing members, is clear. The individual needs a vocation; society is enriched by the productive contributions of its members. The solution of the problem involves the development of a society with expanding work opportunities and the development of individuals who have the necessary abilities and motivation to engage in the various types of work. Both aspects of the solution are important. The guidance of the adolescent involves extensive knowledge of available vocational opportunities, of trends in occupations, and of the requirements of various occupations. It also involves an analysis of individual abilities and interests, their modifiability or unmodifiability, and the matching of the individual and the occupation. But the problem involves even more. For the intelligent performance of work such qualities as responsibility, reliability and intelligent understanding of the point of view of employer and worker are required. Methods for developing these qualities as well as the qualities themselves are only vaguely known at present. It has been suggested that perhaps the best way to develop them is to provide some form of work experience under supervision early in the adolescent period. This may take the form of a part-time-school-part-time-work-program. It will require an adjustment of school curricula and a development of some form of cooperation with industry. The effect of such programs must be tested carefully to determine the most effective types. Such critical evaluation is just now getting under way.

Thus the analysis of the vocational problem leads us to a rich and comprehensive vocational and personal guidance program and to an emphasis on the development of personality characteristics as they are related to occupational effectiveness.

This brief discussion of one problem

of the adolescent period illustrates how far beyond the bare outlines of information a critical analysis in terms of adolescent needs will lead us.

It is not difficult to see that similar analyses of such problems as adjustment to parents, preparation for marriage and parenthood, development of physical and mental health, the intelligent interpretation of the culture, prevention of delinquency and preparation for citizenship will lead us much more deeply into the needs of the adolescent as a member of society and as a growing personality. Evidence is available showing that emotional stability and maturity are greatly affected by cultural influences. To what extent various cultural influences accelerate or retard such development is obviously an important question.

Significant additions can be made at the adolescent level to personality growth. The additions must be isolated and made concrete so that the necessary and extensive changes in home, school and community environments can be effected to bring about a society in which the adolescent can grow to his full personality stature.—R.H.O.

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ADOPTION. Legal adoption of children is largely a matter of recent history. In the United States the first legalization of adoption according to our concept occurred in Massachusetts (1851); though two other states, Texas and Alabama, had actually legalized the process a year earlier for certain purposes involved in the problem of inheritances.

In general, adoption in most of our states is under court jurisdiction, with certain supervisory functions exercised by the state departments of general welfare. There is no uniformity in the assigning of jurisdiction to the courts; but county and probate courts seem commonly specified. Sometimes jurisdiction is with juvenile courts or courts of domestic relations.

Provisions for adequate control and supervision are lacking in numerous states. In general, the greatest needs appear to be for (a) uniformity in the rights of inheritance, (b) professional and expert service in approval of adoptions, (c) uniformity in provisions for interstate regulations, (d) modification of the jurisdiction of lower courts, and (e) improved plans for records and vital statistics.

Although there is little uniformity in the specific statutory provisions among the states, this condition is gradually changing. It is usually provided that adoptive parents, if married, must adopt jointly; that due notice shall be given to those whose consent is necessary; that consent must first be obtained from the natural parents provided they are living and have not been declared incompetent; that the child's consent is necessary if he has reached a specified age (usually fourteen but ranging from ten to seventeen); and that some type of social investigation shall be made as to the desirability of the proposed adoption. At least half the states provide for a probationary period before adoption becomes final.

A recent survey (1940) showed that all states save one had recognized by statute the right of the adoptive child to inherit from his adoptive parents, though in some states the inheritance rights of such a child are restricted, especially with regard to inheritances from collateral adoptive relatives. Where the statute is silent, the common law seems generally to be interpreted by the courts as opposing collateral inheritance. The leading case of Warren vs. Prescott illustrates the rule; "By adoption, the adopters can make for themselves an heir, but they cannot thus make one for their kindred" (Warren vs. Prescott, 84 Me. 483, 487; 24 Atl. 948; 17 L.R.A. 435, 439).

In the matter of inheritance from the child by either adoptive or natural

relatives there is great confusion and no uniformity either in statutory provisions or in court decisions where the statutes are silent. The weight of reason as advanced by recent social and legal authorities on this subject appears strongly to favor legislative provisions which will sever all legal relations between the adopted child and his natural relatives and establish between him and his adoptive relatives exactly the same legal and inheritance relationship as would exist had this relation been created by birth rather than by adoption. The present trend in this direction, however, is slow.

There are no available official data showing fully the number of adoptions annually in the United States. The number appears to approximate 18,000 a year at the present time and to involve 16,000 adoptive families.

In general, there are four major areas of the problem with which the competent guidance worker should be familiar. These are the social, the psychological, the physio-biological, and the legal areas. In playing the role of adviser to prospective adoptive parents, the worker finds it essential to possess a certain degree of knowledge within these areas.

Some of the more critical social problems arise from (a) the parents' misunderstanding concerning the other three areas mentioned, (b) attempts to establish contact with natural parents, (c) confusion concerning the desirability of changing the child's name, and (d) failure to adequately safeguard the child against feelings of insecurity and inferiority growing out of his adoptive status.

Leading social authorities and guidance experts have advocated several specific practices in the matter of handling these problems. Those upon which greatest unanimity of opinion appears evident may be listed. (a) The social worker should provide the parents with available information and literature covering the several areas. (b) The worker should, where no definite good can be anticipated, discourage all attempts by the adoptive parents to trace or make contact with the child's natural parents. (c) There usually should be a definite understanding that the child, at the time of adoption, will take the name of his new parents. Where state

law permits, a new birth certificate should be obtained and should bear only the adoptive name. (d) Making the parents feel that adoption is not a substitute parenthood, but that it is parenthood, enables the parents better to instruct and guide the child in his own development of an attitude toward his status.

In determining the necessary legal procedures in his state, the social worker or visitor or guidance expert should correspond with his state department of child welfare and should consult some competent judge in a court of proper jurisdiction within his area.

It is important that the worker be acquainted with the interpretation of psychological measurements or that he have the expert assistance of a competent guidance clinic which provides psychological service. Better placements for adoption appear to be those which are made with careful consideration of the child's probable mental capacities as compared with those of other members of his new family. Intelligent counselors and guidance authorities favor the attempt to place a child where his probable potentialities will not be too greatly different from those of other members of the family. While effective intelligence, or achievement, will be modified by the new environment, research finds that the basic learning capacities of the child are predetermined within his physiologic structure.

In determining the physio-biologic fitness of the child for adoption, the worker again needs expert aid. Physical examination and studies of the child will need to be made with complete thoroughness. The reports prior to recommendation for adoption, should show serological, endocrinological and neural findings as well as the more ordinary medical data.

Education of parents concerning the facts of genetics is one of the tasks of the worker prior to adoption. It is usually recommended that parents be fully informed of significant facts before they adopt the child, provided they are capable of using such information wisely. Carefully selected literature should be available for the education of parents.

It is recognized that the worker or visitor does not discharge his full res-

possibility in a case when the adoption has been made. Follow-up services are recommended by professional authorities in this field. The case record, preferably built up in a system of cumulative files, should be added to from time to time as periodic visits are made. Interviews following adoption are made both with the child and the parents. No standardized technique has been determined for such interviews. The experienced and intelligent worker will observe the child and will learn to interpret from the interview, however informal, the vital facts concerning the child's actual adjustment as a full member of the family.

Special materials of aid to the worker in the field are available from the Children's Bureau, Department of Labor, Washington, D. C., and from the Child Welfare League of America, New York, N. Y.—D.E.L.

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AFFECTION. Positive emotional conditioning, mainly toward persons, but also toward pets and objects such as toys. Within a family, the child is a natural object of affection or love; the sense of security derived by the child from relations with parents causes him, under

normal conditions, to reciprocate.

See: EMOTIONAL PROBLEMS, INSECURITY, PAMPERING, PARENT CHILD RELATIONS.

AGE NORMS. In reporting the results of test scores, subjects are often grouped by age. For example, all six-year-olds are put in one group, all seven-year-olds in another, and so on. The mean score of each age group is calculated and the results are reported as age norms.

The intervals separating the groups need not necessarily be years, they may be of any size. Sometimes, for example, half-year intervals are used. To take into account any special conditions that may affect the development of children within a given age range, subjects are drawn from different communities, different schools, etc. Sometimes age norms may be reported for special groups, such as six-year-old urban children, six-year-old rural children, etc.

In interpreting and using age norms certain precautions must be exercised:

1. The character of the sample from which the norm is derived must be known. A norm based on children living in the southern states may not be the same as that for children living in the northwestern states, etc.

2. Since the norm is really an average, it has a very limited use unless the variability is also given. It has not been customary in the past to report both average and variability and there has been a tendency to use age norms as guides in appraising achievement without taking into account variability. Because of the fact that age is but one factor affecting achievement and behavior, other norms such as grade norms have also been used.

3. Evidence is available to show that the development of many attributes of the individual is dependent upon the environmental conditions under which he has lived and the experiences he has had.

Progress in acquiring a vocabulary, for example, is dependent upon the richness of experience, kinds of associates, etc. with which the child is surrounded. An age norm, therefore, represents nothing more than average

achievement under the conditions characterizing the environment of the subjects used in determining the norm. Age norms have no universal validity in the sense that they will hold under all types of conditions or for all time.

—R.H.O.

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AGGRESSION. Although there is a core to the meaning of aggression, there exist at least four distinct meanings of this term. In the first place, it refers in a general sense to **self-assertiveness** and to vigor of movement. In the second place, aggressiveness signifies an act of **hostility** with the intention of **attack** and **destruction**. Used in this sense, the child who is aggressive wishes to **injure** another person either directly in his person or indirectly in his possessions or his reputation. The third meaning of aggression is to **gain possession**, either of a person or an object. Aggression means in its fourth sense to **gain control** or **dominance** or **management** of another person. In this sense we speak of the necessity for aggressiveness in leadership.

Child development studies have shown that in general the most aggressive children are also the ones who receive the most aggressiveness from others. Children who are most aggressive in their play with other children are also most aggressive toward adults. Aggressive children are also the most sympathetic and kind when the occasion warrants. From these observations the general conclusion has been reached that aggressiveness is in part a function of the general activity of the child, although this is probably an oversimplification of the dynamic factors which are operating. It is generally believed that the more aggressive child is the one who is undergoing the most severe frustrations.

Aggression has two main functions:

(1) to wrest satisfactions from the outside world, and (2) to destroy the source of pain. In the third meaning of the term, to gain possession, the aggressive child takes for himself what he wishes, and in that way meets his needs. Through aggressiveness, also, a child will attempt to destroy the source of pain, discomfort, and frustration by doing away with the person who is held responsible for the pain or frustration. It is in this sense that children develop attitudes of hostility and behavior which is destructive. Aggression is the most primitive and universal response to frustration (q. v.), and it is a general principle that all aggression is preceded or accompanied by frustration taken in the wide sense of the term. There are three kinds of frustrations which normally lead to aggression: First, deprivation or unfulfilled desire; second, interference with or restriction of activity; and third, an attack from the outside which threatens bodily or psychological harm, pain, or discomfort. Aggression is also conditioned by insecurity, so that it has generally been found that the rejected (see **rejection**) child tends to be aggressive. Aggression may also be an outcome of feelings of inferiority and inadequacy. This is commonly seen in various forms of compensation so tellingly described by Adler. The inferior feeling person attempts to hide his feelings from himself and from others by putting on a confident and blustering front to the world, which is of an aggressive nature.

Aggression is universal and a necessary characteristic of everyone. Without aggression an individual would not be able to cope with the indifferent or hostile environment and win for himself the necessary conditions of existence. Aggression is necessary in order to establish one's place in one's social group, to meet competition, and to maintain oneself in the face of hostile enemies. Aggression is essential for growth. Children can only learn to separate themselves from their parents by slow degrees, by putting forth aggressive energy and acting independently and by reacting to parents with a certain degree of opposition. This is particularly true in adolescence when the final emancipation from the home and the parents must be achieved. Ag-

Aggression turned inward is the basis of self-control, the management of one's crude impulses, and the taming of oneself to fit into the ways of civilization. Aggression is the basis of all constructive activity, and all the worthwhile accomplishments of man, whether in art or in industry, have been accomplished only by harnessing the aggressive impulses.

Parents tend to see aggressiveness in their children only in terms of its negative values. It is only too evident at this time when war is rampant throughout the world that aggressiveness is destructive of human values. This fact has never been brought home to mankind more clearly than today. Aggression tends to be disruptive when it is violent; and, on the other hand, when it is inhibited it leads to unrelieved residual tension. When aggression is turned inward against the self, it results in self-denials and self-restrictions which limit the personality and in a degree is self-destroying.

Aggression can never be eliminated from human society, and because of its positive values, there is no wish to do so. On the other hand, there is great need that aggression be controlled and directed into positive and constructive channels of activity. Since aggression springs in the first place from frustration, the first step that a parent may take to insure that aggression be not too strong in a child is to arrange family life so that there will be a minimum of destructive frustration. Parents should provide emotional security for their children through their own acceptance (q. v.). Aggression must be so controlled as to direct these tendencies into constructive channels. Since children are of necessity frequently frustrated and hence have aggressive tendencies to work off, they should be provided with ample opportunities for active play. Parents should not be disturbed if this play takes the form of personal combat or destructiveness, for a certain amount of this sort of play under controlled conditions is a relief for aggressive tendencies to the growing child.

The solution of the problem of destructive aggression rests mainly with education, for it is only through education that aggressiveness can be turned into constructive channels.—P.M.S.

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See: ACCEPTANCE, FRUSTRATION; REJECTION.

ALLOWANCE. It seems to be the unanimous opinion of experts that every child should, from an early age, receive a regular allowance. Learning to manage money is a necessary part of his education, a preparation for future economic responsibilities. He cannot be expected to manage money wisely if that task is thrust upon him suddenly.

It is generally agreed that a child should begin to receive an allowance as soon as he understands what money is for; several writers believe that most children possess this understanding by the time they are four or five years of age.

Considerable stress is usually given to the point that the allowance should be considered, not as a gift, but as the child's rightful share, as a member of the family group, of the family income. He should share in the income just as he shares in food, shelter, affections, pleasures, and deprivations. Furthermore, it is of prime importance that parents consider the allowance as an educational device, not as a disciplinary control.

Consequently the child should receive the money regularly, according to some definite plan. He cannot learn to plan his expenditures if the amount of money

and the time at which he receives it fluctuate erratically. Authorities are in general agreement that the child's allowance should not be considered as payment for good behavior. Such a system is akin to bribery, and may suggest to the child the weighing of attractions of misbehavior against those of pay. Paying the child for good behavior and withholding money as a punishment for undesirable behavior result in false conceptions of the value of money and especially in erroneous standards of ethics and conduct.

Some writers feel that good conduct might be rewarded by the tangible evidence of a cash bonus, but the more widely held opinion seems to be that there is no really logical basis for deciding how much different types of merit, for example, a good grade in school, are worth in coin. Approval and disapproval, rewards and 'punishments' can be much more wholesomely managed by other means; it seems most unwise to place them on a cash basis.

It follows too, in the opinion of most authorities, that the child's allowance should not be viewed as a payment for the performance of routine duties. Just as the child shares in family pleasures, so, as a cooperative member of the group, he should share in its responsibilities. These duties he performs, not as a hired worker, but as his contribution to family life. It is his responsibility to see that certain tasks are done. If he does them for pay he might choose to leave them undone at his convenience, preferring to forfeit the amount of money involved. Even if the home is well staffed with servants it is felt that the children should regard the performance of some household tasks as their obligation.

It does, however, seem reasonable that the child should receive pay for doing extra tasks or those that would otherwise require hired help. It should be pointed out here, too, that in such cases the pay should be a fair wage. It is not fair to give a child ten cents for shoveling a walk when outsiders would demand fifty cents for the job. Either overpaying or underpaying fails to give a true concept of the value of money and of labor.

To be truly an education in the management of money, the child's allowance

should not be spent for pleasures only. Part of it should be spent for something that represents a real need to the child. At first he may take his responsibility for buying simple items such as socks or pencils. As he grows older he can assume more and more obligations. By the time he is in High School the average child should be able to purchase his clothing and school supplies, soon ready to assume complete responsibility for all his needs. Progressive assumption of responsibilities entails also planning the expenditures for increasingly longer time intervals.

As responsibilities for buying expand, the size of the allowance must increase. For the very young child the size of the allowance is probably best determined by his concept of numbers. A few pennies may suffice for the youngest child. Some feel that by the time he is in kindergarten the average child can manage ten or fifteen cents a week. It has been suggested that the child's allowance might be a proportion of the family's income, increasing or decreasing if family fortunes fluctuate. The size of the proportion would need to be adjusted to the child's understanding and to the responsibilities he assumes.

The amount of guidance to be given the child in the handling of his money will, of course, depend upon his age and capabilities. He should become gradually yet increasingly independent. If parents supervise too closely, they defeat the purpose of the allowance. To be a truly educational experience, it implies decisions, on the child's part, as to how he will spend his money, although parental intervention may be necessary if the child's purchases are truly detrimental to his well-being. Sometimes the purchase seems foolish from the adult viewpoint, but may actually benefit the child, for example by raising his status in the group. Naturally there will be times when the child makes purchases he later regrets, but he will not learn wise spending if he is constantly protected from the consequences of unwise spending. Parents may help in this learning process by aiding the child in setting up some sort of budget, by discussing with him the merits of various products and materials.

Effective handling of money cannot be learned if adults come to the child's

rescue by supplying extra money to replace money spent foolishly. It seems agreed, however, that the child needs to learn about borrowing and lending. If he runs short of money, he may at times borrow from someone or arrange to have an advance on his next installment of the allowance. Excessive borrowing, however, indicates that the child needs further help in planning his expenditures.

Opinions vary to some extent as to the values and management of a program of saving money. There seems to be general agreement that the very young child is unable to grasp the idea of saving for some indefinite purpose in the future. Merely accumulating money lacks educational value. The first saving should be for a concrete object in the very near future. A young child can understand, for example, saving pennies until he has enough to buy a five cent or ten cent toy. As he grows older he can save for more remote and less concrete objects. Some authorities feel that every child should begin fairly early to save a regular share of his allowance for future contingencies. Others feel that young children should save only when they have some definite purchase in view. Most authorities, however, feel that the adolescent is ready for regular saving as a matter of policy.

There seems to be no lack of agreement on the point that children should share in the discussion and planning of the family finances. In this way they receive valuable training in planned spending; they discover how complicated it is to manage the family income effectively. Without awareness of some of the problems the family faces, the child may fail to understand the size and the demands placed upon his own share of the income. Most authorities feel that the child can begin to take part in these discussions as soon as he has a fair understanding of the use of money. By the time they are in school most children can profit by some share in the family financial council.

Many people feel that every child needs to have the opportunity to earn money. Only through this type of experience, they feel, does he gain a true appreciation of what money represents. The earning situation should be a business-like one, with reasonable wages

paid and with attention to the quality of the work done. The purpose of the experience is defeated if the child is overpaid or underpaid, if he is allowed to be irresponsible in his duties. It is, however sometimes difficult to secure suitable opportunities for work for young children. Care should be taken to see that they are not overworked or exposed to undesirable influences.

—H.C.D.

Gruenberg, S. M. and Gruenberg, B. C.: *Parents, Children and Money*, New York, 1937. Viking Press, pp. xii, 219.

ALTRUISM. Inclination to act for the benefit or welfare of others rather than self. The term is used in opposition to egoism, or selfishness; but altruistic behavior may actually be quite compatible with self-interest. The inclination is definitely a product of conditioning and is not found among very young children.

See: COOPERATION, EMPATHY, IDENTIFICATION, PERSONALITY.

ANECDOTE: The term "anecdote" (often called "anecdotal records") has come to have a specific meaning in the fields of child development and child guidance. It has become a tool for the observation of child behavior. The teacher is the most frequent user of the anecdote, although any one who is trained in the objective description of directly observed behavior and who also knows the child well may use the method. Briefly, it consists of two sections, the first of which is a paragraph or two of exact concrete descriptions of observed child behavior, including actions, conversation, etc., without interpretative words of any kind. Insofar as possible an objective description of the setting in which the behavior occurred is also recorded. The second section consists of an interpretative evaluation of the behavior using the evaluation of the writer's knowledge of the child in his many associations with him. This interpretation is entirely subjective and dependent on the writer's skill in interpreting the significance of the observed behavior.

Anecdotal records are usually a sup-

plementary material for the guidance of the individual child. They help give a more vivid and intimate picture of the child, but their objectivity makes it possible for others to use them and to separate personal opinion from more directly observed evidence. Because they are highly time-consuming it is difficult to secure sufficient numbers of anecdotes on any one individual to give an adequate picture of him. However, they are valuable as additional evidence to other types of records. In writing anecdotes teachers must see that they are typical. In actual practice teachers are more likely to write anecdotes concerning undesirable incidents than the desirable. Adequate training can overcome this tendency. Considerable training is also necessary to eliminate subjective words from the objective description of behavior.—D.V.A.

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ANGER. A strong emotion resulting from thwarting of, or interference with, one's desires or impulses. Among the newborn babies it can be evoked by hampering the movements of their arms and legs. At a later age, its causes become more obscure and individual, but it must always be regarded as a result of emotional conditioning, often closely connected with fear and aggressiveness.

See: AGGRESSION, EMOTIONAL PROBLEMS, FEAR, MENTAL HYGIENE, TEMPER TANTRUMS.

ANOREXIA. Excessively poor appetite, mainly of psychological origin. It manifests itself, especially in well-to-do families, often with regard to some specific foods. It may be caused by parental oversolicitousness over the child's meals; or else it may be a symptom of hysteria.

See: FEEDING PROBLEMS, NEGATIVISM, OVERPROTECTION.

ANTISOCIAL BEHAVIOR. A child is normally regarded as being antisocial; that is, in conflict with other individuals, when his behavior is characterized by bullying, quarreling, disobedience, and destructiveness to people and property. The antisocial child endeavors to secure his satisfactions in ways considered both damaging and unfair to others. Normal adjustment is marked by relative freedom from these tendencies.

Studies have shown that in the case of children approximately one to seven years of age, antisocial action tends to take the form of stamping the feet, kicking, jumping up and down, striking others, throwing self on the floor, holding the breath, and otherwise indulging in overt physical demonstrations of anger. According to Wickman and others, antisocial behavior in elementary school age children takes the form of (1) violation of social standards, such as lying, stealing, cheating, and immorality, (2) rebellion against authority, such as disobedience, defiance, and impertinence, (3) violation of school regulations, such as truancy, tardiness, and destructiveness, (4) classroom difficulties, such as whispering, disorderliness, noise making, and laziness, and (5) difficulties with other children, such as roughness, bullying, tattling, and general antagonistic behavior.

The more confirmed antisocial youth or adult is essentially the egocentric personality. His behavior is motivated by self-interest and includes such manifestations as malingering, pathological lying, stealing, swindling, bodily injury, and other forms of criminal action. Such a personality is often characterized by an apparent lack of social insight and sympathy, coldness in human relationships, and the absence of conscience. The antisocial individual is frequently violent, destructive of property, and brutal to those who cannot successfully resist him. The great majority of chronic criminals and juvenile delinquents may be regarded as belonging in this category. It is apparently true, however, that many so-called delinquent youths are neither sufficiently antisocial nor egocentric to be classed as being abnormal in these respects.

Antisocial behavior was once looked upon as an expression of inborn evil tendencies. It is generally recognized today, however, that such behavior is symptomatic of conflict, defeat, inferiority, or some other form of maladjustment that has resulted from misunderstanding of the child's nature and mishandling of his problems. Sympathetic insight into the child's needs and the disposition to assist him in securing socially desirable satisfactions have superseded the older emphasis upon arbitrary discipline and punishment. Antisocial behavior may be regarded as an effort to satisfy thwarted needs.—L.P.T.

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THE ANXIETY NEUROSIS. A strict differentiation between the various forms of neurosis is not always possible, since all of them usually exhibit at one time or another symptoms which properly belong to some other form of disorder. But a differentiation between the so-called Actual neuroses and the Psychoneuroses has important practical therapeutic implications. The psychoneurosis is, according to psychoanalytic theory, due to causes of a psychological nature and is responsive to psychological treatment. The actual neuroses, comprising Neurasthenia, Hypochondriasis, Anxiety neurosis, and, according to some, the condition known as "Depersonalization," are due to non-psychological factors, probably largely of a toxic origin, and treatment largely concerns itself with the hygiene of sexual life.

The distinctions drawn above must be viewed as relative and not absolute, since it is quite inconceivable that the manifestations of the so-called actual neuroses could be entirely free from some, at least, secondary psychological causal elements and that, in efforts to

correct a patient's sexual behavior, psychological therapeutic approaches can be entirely left out. Moreover, it is not uncommon to observe an anxiety neurosis becoming converted into an anxiety hysteria (a psychoneurosis) in consequence of the "Ego" endeavors to rid itself of the discomforts incident to the anxiety neurosis. The writer is in agreement with other observers, when they state that a pure case of anxiety neurosis is one of the rarest phenomena in clinical experience.

The foremost manifestations of this disorder is "anxiety." This anxiety may assume a variety of forms; it may be a so-called free-floating anxiety, unattached to any object, a general discomfort and anxiousness, or it may occur in the form of "anxiety attacks," or as anxiety about some definite person, or as a kind of anticipatory anxiety, or anxious expectation of certain things to happen. Sensations of air hunger, palpitation, excessive sweating, tremulousness, diarrhea, etc. are the physical manifestations accompanying anxiety states. These symptoms may occur singly or in various combinations.

Behind the outbreak of a typical anxiety neurosis, one always finds a history of disturbance in sexual activity, e. g. coitus interruptus, frustrated sexual excitation, prolonged abstinence, especially the abrupt cessation of sexual activity in young widows. In all these disorders, the central pathogenic event seems to be an interference with the natural course of the orgasm, failure to complete the act and failure to obtain satisfaction.

The theoretical considerations advanced for the occurrence of this disorder are confused and not too convincing. But since clinical manifestations of anxiety states follow in the wake of certain toxic disorders, like Basedow's disease, it can be assumed that toxemia may play an important role here.

The disorder may assume a chronic course, and treatment depends largely on the possibility of changing radically the patient's sexual life and habits. Prevention, therefore, plays a very important part here and it is a fact that increasing popular enlightenment concerning the hygiene of sexual activity, with the consequent liberalization of attitude towards sexual matters, has

served to reduce the frequency of these disorders.—B.G.

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See: FEAR.

APATHY. A temporary or chronic mental condition characterized by abnormally lowered emotional life, noticeable particularly in situations which ordinarily evoke definite manifestations of emotional response on the part of the individual concerned. In children, this condition calls for consultation with a pediatrician or psychiatrist, as indicative of a physical or mental ailment.

See: MENTAL HYGIENE.

APHASIA. A speech disorder or complete mutism, rare in children, caused by a brain lesion or infectuous disease and expressing itself in a partial or full inability to understand spoken language (auditory aphasia), to read (alexia), or to speak (aphemia).

See: SPEECH DISORDERS.

APPETITE. Normal inclination to consume food periodically, according to one's age. Poor appetite may be a result of overfeeding, lack of exercise and fresh air, emotional upsets, negativism and other psychological conflicts, teething, constipation, and bad state of health. The practice of resorting to artificial enticements, pleas or even threats, so commonly used by mothers, is in a long run ineffective or even psychologically harmful. After the probable causes of the child's poor appetite have been carefully examined and proper

measures taken to eliminate them, it is wise to pay less attention to his eating habits and more attention to his health habits.

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See: FEEDING PROBLEMS.

APTITUDE. Aptitude may be defined as the capacity to achieve along special lines; or a special tendency, bent, fitness, aptness, or quickness of understanding due to a special neural or muscular organization possessed by the individual, which sets him apart as being superior to the average in performance in that trait or activity.

Psychologically, the term is applied to such special abilities as mechanical, musical, artistic, scholastic, industrial, vocational, social, moral and religious capacities or abilities, as distinguished from general intelligence, which signifies general or mental ability or power of reasoning and involves the ability to learn to make adjustments to the problems and conditions of life.

No one knows how much genius and ability is going to waste for want of discovery and development. On the other hand, it is known that much time and energy is being spent in trying to develop habits, skills, and abilities in individuals who lack the aptitude for acquiring them. It is for the interest and welfare of both the individual and society that special aptitudes be discovered early so that they may be given appropriate development. Likewise early discovery of inaptitudes is most essential in order that the wasteful process of trial, blunder, and failure may be obviated.

As a result of scientific advances in psychology and education, ways and means are being found for reducing

the waste of human ability and energy involved in failure to discover and develop special aptitudes and abilities. The modern elementary and high school is a great exploratory institution as well as a proving ground for human potentialities. From the time the child enters the modern school, until he leaves it, he goes through one exploratory process after another which provide opportunities for discovering his interests, abilities, and aptitudes, as well as his dislikes, disabilities, and inaptitudes.

Shortly after entering school, and frequently thereafter, the child is given tests that determine his mental and physical status, and that show the progress he is making in his school work. Weaknesses are diagnosed and remedial measures are undertaken. Special aptitudes are discovered and appropriate curricular provisions are offered for cultivating them. Wide provisions are made in the course of study for developing various latent talents found in children. In the junior high school many introductory and exploratory courses are provided for discovering interests and aptitudes. Innumerable extra-curricular activities are found in the modern high school which serve further as exploratory and proving grounds for special abilities and aptitudes.

Then the modern school has a guidance program headed by a trained director and counsellor. He uses tests of all kinds, including tests of intelligence, achievement, aptitude, interests, personality, and vocational proficiency. Fortified with an abundance of scientific and personal information, the guidance counsellor is in position to render expert advice and give suggestions regarding a program of activity and learning that is best suited for the individual concerned.

Where previous experience in a field of learning or activity exists, aptitude in that field may be tested by means of achievement or performance tests. There are times, however, when opportunities for trying out aptitudes by experience are not available. In such cases it is not known whether special aptitudes exist. A different type of test is needed, therefore, to reveal latent talents and aptitudes, namely, one which will predict ability to perform. Because

of their predictive nature, such tests are known as prognostic tests.

It is a truism that achievement depends on the capacity to achieve. The score an individual makes on a reliable achievement test is a fairly good index of his capacity or aptitude in the field tested. It has been found that past achievement in certain fields may be used as a fairly trustworthy index of future achievement in those fields. For example, scholarship in the elementary school has been found to be a good index of scholarship in the high school, and the latter, in turn, is a good index of scholarship in college. In other words, achievement in the elementary school correlates well with achievement in high school, and the latter with achievement in college.

The predictive or prognostic value of certain selected achievement tests, as instruments for determining success in college, is shown by the following coefficients of correlation:

TEST	r
Iowa Language Aptitude.....	.58
Nelson-Denny Reading .....	.55
Sones-Harry High School Achievement .....	.37
Iowa Content Examination .....	.47
Pribble-McCrory Diagnostic Test in Practical English Grammar	.45
Columbia Research Bureau English .....	.34
(data from Bulletin No. 12, 1937, U. S. Office of Education)	

PROGNOSTIC TESTS: Achievement tests as shown above, may be used as prognostic tests for determining college success. Intelligence tests do the same in some fields of activity. Ordinarily, however, we think of prognostic tests as those that measure aptitude in special fields before there has been opportunity to learn, perform or achieve in that field. These tests have been devised for such subjects as Latin, French, German, Algebra, commercial subjects, home economics, manual training, mechanical drawing, and others. Significant correlations have been found to exist between scores made on some prognosis tests and subsequent success in the subject. The following reported by Brooks are illustrative:

TEST	H.S. SUBJECT	r
Allen Latin Prognosis—Latin 11 (1st Sem.)		.59
Clem Latin Prognosis—Latin 1 (1st Sem.)		.77
Orleans and Solomon Latin Prognosis Test—Latin 1 (1st Sem.)		.80
Wilkins Prognosis Test—French 1 (1st Sem.)		.55
Oleans Algebra Prognosis Test—Algebra 1 (1st Sem.)		.80
Hoke Prognosis Test—Shorthand		.52

Special aptitude tests are particularly valuable in the vocational field, since prediction of success vocationally is of great value to most persons. If, by taking a number of special tests, one can discover the vocational fields in which one is most likely to succeed, one will have the most valuable information possible in selecting a life career. In discussing some of his investigations on aptitude traits, Hull remarks, "If anything closely approximating this (his experimental results) should turn out to be true of vocational aptitudes, its significance as to the unrealized possibilities of vocational guidance would be profound. It means that if vocational choices are left largely to chance, as is evidently now the case, it will be very rare that an individual will choose the one vocation in which his aptitude is greatest. Indeed, by mere chance he would be about as likely to choose the worst. Such a mistake would be both a personal and a social tragedy of the first order. . . . It is the task of aptitude testing to forecast an individual's aptitudes in advance of choice, so as to be able to guide him into a vocation that will correspond as nearly as possible to his maximum potentiality."

Mechanical aptitude can be measured quite reliably by such tests as the STENQUIST MECHANICAL APTITUDE TEST, or the MacQUARRIE MECHANICAL ABILITY TEST, each of which shows a high correlation with achievement in mechanical and trade courses. In the clerical field, Thurstone, Thorndike and Toops, Ruggles, O'Rourke, and others developed tests that measure various aspects of clerical aptitude. In the field of musical aptitude the SEASHORE TESTS FOR MUSICAL APTITUDE are well known and widely

used. Other fields for which aptitude tests have been devised with greater or lesser success are stenography, salesmanship, accounting, teaching, engineering aviation, and the various mechanical and industrial trades and occupations.

SPECIAL APTITUDES ARE NOT SINGLE ISOLATED FUNCTIONS. Special aptitudes do not consist of a single trait or capacity, but rather, as is true of general intelligence, they consist of an aggregate of different traits or capacities all of which contribute their individual share to the whole. Take, for example, the special aptitude of musical ability. It is not a single capacity, but rather a complex ability made up of such individual capacities as: sense of pitch, intensity, time consonance, acuity of hearing, auditory imagery, memory, motility, timed action, rhythmic action, singing key, singing intervals, voice control, register of voice, quality of voice, and the like, as Seashore has indicated in the development of his tests.

The same is true of mechanical ability, clerical ability, salesmanship ability, and other special abilities. Many traits and capacities overlap or carry over into different aptitudes. For example, many of the individual traits that go to make up general intelligence also contribute to various special aptitudes, though in different quantities and combinations. The overlapping of contributing traits in different aptitudes is shown by the degree of correlation between them. That mechanical aptitude and general intelligence are not the same is shown by the fact that the correlation between them is low. The existence of a correlation between them shows, however, that there is some similarity or overlapping of traits between these two abilities.

While a good start has been made in investigating and measuring special aptitudes, the field is still wide open in many respects, for, as Gates says, "The range of special aptitudes is broader than industrial, vocational, scholastic, and aesthetic activities; it includes the social, moral, religious, and other phases of life."—A.D.M.

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APTITUDE TESTS. Aptitude is contingent on an individual's relative fitness to perform a particular task, his readiness to acquire proficiency, and his potential ability. An "Aptitude Test" is a device for measuring these general potentialities at the level at which they exist—irrespective of whether they are native (transmitted through heredity), or acquired in the course of life. It is a well established fact that the degree to which any one aptitude may be developed differs from one individual to another. It is also recognized that different aptitudes vary in their development within the same individual. Aptitude testing therefore concerns itself with the distribution of these various skills among different individuals, and with the relative development of the various potentialities in any one particular person.

Aptitude testing is of value in vocational guidance, where suggestions for one's future occupation may be based on the skills one possesses or is likely to develop; in placement work, where a definite level of performance may be expected by the employer; in classification of groups of individuals (such as in the army, in prisons, etc.), where it may be desirable to select people suited for particular training; and in the school system, where the curriculum of the student may be dependent on his potentialities.

Numerous aptitude tests have been devised. For example, there are tests to measure artistic ability, clerical skill, medical aptitude, mechanical aptitude, and many others. Sometimes, it may be desirable to subdivide a general aptitude, such as the mechanical aptitude, into its more specific components; tests to measure these required characteristics have too been constructed.

With an ever increasing multitude of "jobs" growing within our present industry, and with a definite tendency toward specialization, aptitude testing becomes a necessary adjunct to efficient production.—H.S.

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See: APTITUDE.

ART APPRECIATION. 1. GENERAL. Art appreciation can be described as the awareness and intelligent enjoyment of art objects and, to a certain extent, includes sensitivity to their aesthetical values as well as discrimination of their diverse qualities. Appreciation of this kind is due to a response traceable either to the value which we put personally on the object in question or to the recognition of inherent values which are important to the whole community, country or civilization regardless of one's personal attitude. Thus art may be appreciated because of personal, that is sentimental reasons, or as a sign of cultural recognition whereby the opinion of a minority of experts is accepted. Art appreciation for personal reasons does not claim universal recognition of the chosen art object. However, appreciation of an art object because its value is publicly recognized entails acceptance of values found in the art object by respected art experts. Acceptance of this nature does not necessarily comprise understanding of the qualities on which the judgment of experts is based, in other words, a given individual cannot always perceive the distinguishing qualities which are inherent in the appreciation unless these qualities are pointed out to him.

2. SYSTEMATIC APPROACHES TO AESTHETICS. The response to aesthetic qualities of an art object apart from its historical or cultural value involves interpretation of this term in the light of theories concerning aesthetics. A scientific approach to aesthetics can be made by using psychological methods, that is by distinguishing between the creator of an art object and the spectator (11). It concerns itself with the emotional release through creation and with the emotional reaction through contemplation. A variety of this approach is found in psychoanalysis of art and psychoanalysis of its pathology. Another approach is that of classification and clarification of aesthetic concepts by means of description and definition, thus

establishing an objective terminology (12). Fechner (2) and his followers started experimental aesthetics by which aesthetic phenomena are described and interpreted in the light of laboratory situations. The philosophic approach to aesthetics makes the art object the center of speculation and is usually based on a system of the beautiful. The term beauty is specifically defined and the different branches of aesthetics are then related in their conclusions to this definition in order to fulfill logically its postulates. Thus an art object qualifies if it satisfies the basic postulates of the philosophy in question. Separate from these approaches are those made by sociologists and ethnologists. They study the cultures and art of primitive societies, assuming that these represent an unpolluted source of information. Thus they hope to arrive at less complex interpretations of aesthetics. Child art resembles in many respects primitive art and is therefore studied for the same purpose.

3. THE CHILD'S CONCEPT OF THE BEAUTIFUL. These approaches open possibilities of arriving at an understanding of children's appreciation of art. The philosophical approach points to a means of obtaining some knowledge of the child's concept of the beautiful. The child's concept of the beautiful is found to change according to age level.

a. The young child appreciates small and simple units such as a flower or a dress ornament. With increasing age the units become more inclusive and more complex. Thus, in a portrait, jewelry or flower arrangements are more appreciated and admired than facial expression or compositional qualities (6).

b. The younger child cannot separate his own activities from aesthetic appreciation of objects or from his surroundings, e. g. the woods may be admired primarily for the play opportunities they offer; their enjoyment is intensified because of the exceptional setting (3, 17).

c. The older child projects his emotional state into the art object or into nature (6). Unknowingly he assumes that the art object reflects or represents his own attitude.

d. The younger child measures the aesthetic value of an object by its morality. Being beautiful and being good are one. Older children differentiate

between the two concepts. However, similar to the unsophisticated drama or the fairy tale in which the villain is ugly and the heroine must be beautiful because she is good, the moral sense dominates the aesthetic interpretation. Since the child's concept of beauty varies from case to case and cannot be therefore determined with sufficient exactitude, a philosophy of beauty cannot be applied to children's art appreciation.

4. DEVELOPMENTAL CHARACTER OF CHILDREN'S ART APPRECIATION. A psychological approach in terms of child development seems more adequate and promising. Children consider the beauty of objects, persons, scenery or displays differently from adults. Their attitudes change according to age levels. Thus appreciation of pictures as beautiful objects does not show much earlier than at age levels nine to eleven (1). It has also been found that children respond little to the formal aspects of beauty and therein lies the reason why color interest becomes differentiated only when founded on their own direct observation and experience, that is knowledge of the actual color of things (13). Children's art appreciation is intimately related to their general interests at a given age level. Appreciation of pantomime, music or poetry precedes appreciation of visual art objects (1). The following facts are derived from experimental data on picture appreciation (6).

a. Picture preference varies according to age level and sex.

b. Children, through all age levels, are primarily interested in the content of pictures, even of patterns. Differences of content account for variation in preference.

c. Younger children's interest in the content of pictures centers on specific objects which seem to embody a real or fictitious story or an imagined activity. Older children's interest concerns itself with less obvious and crude associations and tends to center on character and morality of the people or situation which is represented. Their response is of a more emotional nature.

d. Color interest, though not primary, ranges next to interest in content and serves to intensify the content. Emotionally, the same color is interpreted differently by younger and older chil-

dren. Parallel to color use in their own drawings (see 'Drawing') younger children are partial to many and brilliant colors, older children to fewer and carefully assorted colors or to monochromes.

e. Younger children are fairly indifferent to technique and skill, older children notice them especially if the medium used in the picture is similar to material they have tried themselves, such as charcoal or pencil.

f. Children appreciate reality and clarity in a picture, that is, in terms of style and period children prefer naturalism or realism (photographic likeness) to expressionism, decorative primitivism or the non-perspective pictures of oriental art.

g. Children who are specially gifted in the visual arts (see 'Artistic Ability'), differ somehow from average children. Although their preferences are strongly influenced by the content and the content is defined by the general interest at a given age level (similar to average children), they show an interest in design and technique which is practically non-existent in the average child. Their range of interesting art objects extends farther than that of the average child. While the average child feels satisfied with the illusion that the art object creates and identifies himself with the illusory persons or situations by pretending to be part of it, the specially gifted child undertakes some kind of analysis of the work of art in order to detect and if possible to assimilate and apply the means which created the illusion.

Summarizing one can say that children do not react directly to aesthetic qualities in works of art, that the reaction of primary grade children indicates that the picture is not interpreted as an object (representing a picture) but as an actually existing situation comparable to peeping through a window and thus observing whatever goes on. The aesthetic response is therefore indirect and in general unconscious, while the response to non-artistic parts is direct. However, this is not proof of an actual deficiency of aesthetic feeling (8). Indirectly there is indication of an aesthetic response inasmuch as the content of an object is enhanced and made more permanently impressive when represented in an aesthetic form (6).

5. EDUCATION TOWARD ART APPRECIATION. From the previous the following applications can be derived for art education regarding the development of art appreciation.

a. Children's preferences indicate what kind of art objects are likely to arouse interest, thus giving the teacher a starting point for guidance. This is especially important at high school level where art interest ranks low among other dominating interests.

b. Enumeration, description or explanation of aesthetic qualities in general terms such as beauty or more specific terms such as line arrangement are of no effect unless experienced by the child and serve only the purpose of acquiring an additional though rather meaningless vocabulary. It is recommendable to use an indirect approach by introducing aesthetic qualities, their observation and assimilation, with other subjects of immediate interest, such as history or languages which permit the use of pictorial material or of models.

c. Older children's aesthetic reactions can be guided and modified by means of discussion and illustration of the consumer's and the community's needs and point of view. The more intellectual among the secondary school children can be guided toward art appreciation by means of a human representation of art and artists, their lives and their relation to the period in which they lived; by discussion of the social and cultural aspects of art and its meaning in the light of daily living, of various civilizations, contemporary or past.

d. To arrive at an estimate of the immediate objectives of art appreciation at a given age level it should be helpful to study the art appreciative reactions of specially gifted children of the same age levels, since the latter share the same general interests but go beyond the outlook of average children. Guidance of the average child towards the appreciation which a child more gifted in the visual arts is able to experience indicates a direction which seems more adequate than anyone indicated by the adult's outlook.—B.L.H.

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ARTISTIC ABILITY. Artistic ability can be defined as an ability which transcends the art ability of the average child and which can be best observed in specially gifted children. It comprises the productive capability, rate and quantity of learning as well as art understanding. Special artistic ability correlates positively with higher intelligence and better scholarship. Within a group of specially gifted children it is possible to discriminate types of ability, e. g. drawing from nature or decorativeness. Artistic ability exists in varying degrees. Considered as a group, specially gifted children excel average children, but the least able within the group are only slightly above the best average children and differ less from the latter than they differ from the most able in their own group.

Concerning productive—creative—ability in the visual arts one can enumerate the following characteristics of specially gifted children as compared with average children. These statements must be approached and interpreted

with caution and flexibility. In generalizing, one must concede a certain amount of latitude for the interpretation of and application to individual cases.

1. **CHOICE OF SUBJECT.** The gifted child treats a greater variety of subjects than the average child and represents them by means of more different objects and figures. This quality is less apparent during the schematic stage, since intelligent but non-visual children will also choose many different subjects. But once the true-to-appearance stage is neared or reached, average children treat far fewer subjects than gifted children. In his choice of subjects the gifted child will select and develop themes which, visually speaking, offer the most favorable opportunities for the graphic medium. The reason for this selective procedure may be sought in his perhaps unconscious separation of the visually presentable from the a-visual, a process which comes about already during the schematic stage and is sustained by the kind of memory he seems to possess. Obviously this discriminative ability is used quite consciously at a later stage. At a time when the average child resorts to a sifting of his picture subjects dictated by the limitation of his graphic vocabulary, the gifted child separates the visual aspects from other sense impressions and elaborates on the former.

2. **GRAPHIC VOCABULARY.** The gifted child, during his schematic stage, has a wider, that is, more varied graphic vocabulary than the average child. He represents more objects with facility and varies their representation to a greater extent than does the average child. The gifted child develops his schemata further and adds more details and decorative elements than does the average child.

3. **ACCELERATED REPRESENTATIONAL DEVELOPMENT.** Gifted children reach each developmental stage earlier than average children (See "Drawing"). Some psychologists have raised the question whether great artists have ever gone through a schematic stage. However, all that is known about gifted children or the childhood drawings of prominent artists shows a development through all representational stages, though more or less

shortened. Some gifted children are at the peak of the schematic stage at a time when the average child is still in his scribble stage, others have acquired a true-to-appearance and perspective representation at the age of six. The course of development of gifted children is similar to that of average children but is compressed into a shorter span of time. Nevertheless, it is richer in most qualities than the lengthier stages of average children. It may be assumed that developmental stages are the expression of experiences due to a certain mental attitude (See "Drawing"). Therefore the question arises whether the mental attitudes of visually gifted children are different from those of average children. At present, observations indicate that the only noticeable difference consists in the predominance of visual impressions. Among gifted children it is exceedingly difficult to discriminate between those who show artistically prominent characteristics and those who show only a facility of graphic representation. All children with a predominance of the visual will have a wide and varied graphic vocabulary, but not all of these will show aesthetic qualities that are above average. The art products of children with an accelerated development but without the accompanying outstanding aesthetic characteristics would not be noticed among a group of average but much older children, while the artistically superior child will remain outstanding within any group, of the same level or older. Consequently the differentiation of accelerated development from unusual aesthetic qualities leads to a classification of over-normal children as distinguished from artistically gifted ones.

4. CARRY-OVER FROM SCHEMATIC TO TRUE-TO-APPEARANCE STAGE. The majority of average children stop at the schematic stage and those who attain a later developmental status lose the qualities that distinguished their schematic products, e. g. compositional arrangement, color, or ideological content. Gifted children carry over the qualities that distinguished their work in the schematic stage into the true-to-appearance stage and adapt them to their different means of representation.

5. MOVEMENT. The average child, if

he expresses movement at all, does so by indirect and rather inappropriate means (see "Drawing"). Children with artistic ability are able to express movement. In their schematic stage they achieve this by a technique of strokes; by compositional arrangement; in ways comparable to those of cartoonists; and also by drawing figures in minute sizes and in masses and imparting to them a specific direction, such as forward or sidewise slant. At the true-to-appearance stage movement is conveyed by representing some essential features which characterize the movement such as position of arms or legs, twist of body, or some surprising foreshortening. This ability is not only the result of an especially vivid memory but calls also for an ability to move and operate objects mentally; in other words, the mental pictures of objects, besides being clear, are not rigid, they can be made to move, turn, contort, not unlike animated cartoons.

6. LEARNING ABILITY. The gifted child's ability to learn is greater than that of the average child, as is also his wish to learn. He is more ready to use suggestions and to follow instructions. He will use any means to acquire more knowledge: direct instruction; observation of the visual aspect of his surroundings; repeated and relentless trials. Instead of restricting his representations because of gaps in knowledge, he will seek to fill these gaps rather than alter his own standards.

7. CONSCIOUS PICTURE ORGANIZATION. All children at the schematic stage tend to represent the essential and fundamental traits of their subject. The organization of these essentials is highly developed in gifted children. It is carried over to the next stage, contrary to average children who shy away from any representation requiring organizational changes or grouping.

8. VISUAL MEMORY. The gifted child's imagination is not only vivid, but also predominantly visual, supported by an acute visual memory which enables him to retain over long periods of time—months or years—objects, figures and situations with all their essential visual features and a considerable number of details. Though children—and adults—not especially gifted in the visual arts will also remember

vividly, their memories will be a conglomerate of sense impressions, some of them visual, some of them abstract. Because of this mixture, such memories do not lend themselves particularly to visual representation.

9. MEDIUM. The average older child is disinclined to try new media unless much encouraged and helped. The gifted older child remains more curious and wishes to challenge his own ability. While the average child invariably tries to adapt a new medium to a previously used and familiar technique, the gifted child will forego acquired skills unsuitable to the new medium and grope for a new technique which suits the new need. The gifted child shows also far greater insight into the nature and possibilities of a new medium and displays greater consistency and effectiveness in handling it than does the average child.

We can distinguish various special types of ability among gifted children. One of them is conceptual ability, that is, the ability to remember characteristics of an object in such a way that he is able to represent them after they have been removed. This ability might be considered as basic for all other visual abilities since without it every creative process would be hindered. Other abilities are: imaginative ability, that is, the ability of the child to use visual concepts for the purpose of representing his own phantasies, ignoring certain elements and exaggerating others; ability to copy, that is, the ability to imitate slavishly a given original (copyists of this type are seldom able to do anything else and are usually of poor intelligence); ability to draw from nature or model, that is a faithful reproduction of optical impressions, coupled with a certain amount of interpretation of what the child sees. It differs from copying in that it is selective and accentuates essentials or omits irrelevant details. Ability of this type seldom appears earlier than in the 11th year, that is, when the schematic drawing is developing into a drawing true-to-appearance.

Children with an extraordinary visual ability do not show one clearcut type of giftedness but a combination with predominance of one of these types; the copyist is perhaps the only exception.

The development and excellency of a specific medium in art, e. g. modeling vs. drawing, may be traced to a constitutional difference insofar as one kind responds to three-dimensional, the other to flat optical impressions. The first may be called haptic and is dominated by kinesthesia and empathy, the second is best represented by the silhouetist who retains automatically contours, but whose mental image disintegrates when he represents the details that fill out the silhouetted shape. These basically contradictory forms of visualization occur simultaneously in most individuals. "The problem and objective of all graphic art is the reconciliation of both", says O. Wulff, a problem which the gifted child solves successfully.

Artistic ability can also be studied as a group phenomenon treating the characteristics common to all children's art. In doing so we refer to the schematic stage as unique in its ways of representation of shapes, organization, treatment of perspective, coloring and decorative qualities (for details see "Drawing"). The art of some artists and of some epochs in art history shows similarities with that of children. Thus children's art work has been found to resemble that of early European masters such as Hieronymus Bosch, or that of the time preceding perspective interpretation of nature and full modeling of forms (13th century). It also has been compared to extreme modern art; in fact, modern expressionist art has drawn attention to, and caused more intensive study as well as reorganization of the curriculum of, children's art. Resemblances have been pointed out between child art and the art of the insane. Children's schematicism and symbolism have been found to run parallel to the abstract art of primitive tribes. A series of other characteristics, such as stiffness of pose, sharpness of outline and stylization were seen in both, children's art and the art of "naive painters", that is, persons painting for an avocation. Among the qualities which child art has in common with one or several of the above mentioned arts are schematicism; symbolism; peculiar, non-perspective space interpretation; repetitiousness; tendency toward ornamentation and decoration; uninhibited play-

fulness; lack of precision and neatness; and antithetical color-use.

—B.L-H

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ASCENDANCE - SUBMISSION. Ascendant behavior is usually considered to be of two general types, first, pursuing one's own purposes against interference, and second, directing the behavior of one's companions. The term was first expanded and explained by Allport (1). An ascendant individual according to his use of the term is one who acts in accordance with his own desires and places himself in a position of advancement. In most of the studies in this field, submission has been considered to be the absence of ascendant behavior rather than a separate measurable reaction.

Allport (1) and Bender (4) studied ascendance-submission in relation to certain other factors in the adult personality. Jack (8) pushed the concept down to the preschool age level and devised a technique for measuring this type of behavior pattern in young children. Page (9) investigated the effect of two types of experience upon ascendant behavior. They were, first, controlled experimental training, designed to increase self-confidence, and second, attendance in a preschool group. She discovered that training which increased self-confidence was reflected in a general increase in ascendant behavior in the preschool group. Non-ascendant or moderately ascendant children showed somewhat greater gains than originally ascendant children. The degree of transfer of training effect through the general preschool situation seemed to be dependent upon the thoroughness

of the self-confidence training and the variety of the situations in which confidence had been established.

Hatherly (7) attempted to discover some of the factors which influenced the ascendant relationship of two individuals. Her results indicated that, first, a child who made ascendant approaches to other children tended to discourage ascendant attempts in his companions, and second, there was no relation between attempts to gain ascendance and the percentage of success experienced. Thus the identity of the companion seemed to be an important factor in determining the ascendant score. Fairlie (6) reported consistency of scores in ascendant behavior in an orphanage preschool group. When modifications of administrative policy were made in the direction of more freedom for all the children, those who had not been in preschool almost doubled their ascendance scores. This finding tends to substantiate the view that the amount of ascendance shown by a child is a function of his feeling of self-confidence in a situation. Anderson (2, 3) attempted to measure dominative and integrative aspects of ascendant types of behavior.

Chittenden (5) went beyond the theoretical stage represented by Anderson and attempted to devise a direct teaching method which would be effective in helping young children develop skill in social response. The training program consisted of a series of eleven fifteen minute play periods, during which the child witnessed short "plays" where dolls in the roles of preschool children participated in social situations similar to those in which the child, himself, frequently experienced difficulty. The child and adult together analyzed the situations. This program was effective in bringing about a significant decrease in the dominative behavior of a group of highly dominative children and in increasing cooperative behavior of these same children.—M.L.P.

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See: DOMINANCE, INTEGRATIVE BEHAVIOR.

ATTENTION. Attention is an exploratory reaction or mind set preparatory to perception. Without paying attention to an object or idea it cannot be perceived. The mind must be concentrated, or be AT-TENSION, or be focused upon an object or idea in order that the perceptive process may be brought into operation. As an illustration of how attention and perception facilitate each other we may take the familiar ink-blot experiment. By focusing attention on a nondescript ink-blot we perceive resemblances to different kinds of objects. Attention arouses interest and curiosity, and vice-versa. It is an active process, continually shifting from one situation to another. This shifting nature of attention is demonstrated by observing its reaction to a small object such as a coin. For a moment attention is focused on the object as a whole, and

it is perceived as, let us say, a dime. But attention cannot be held on the dime as a whole very long. It soon shifts to specific parts of the head, the face, the hair, the wing on the hair, the letters around the outside of the head, the word "liberty", the date, the fine print "In God we trust." Now with attention and interest fully aroused, the other side of the dime is explored in a similar manner. This side furnishes even more stimuli for the attention and perceptual process to work on.

Attention shifts from one thing to another all during waking hours. Even while concentrating it shifts within the range of concentration. In reading, attention shifts along the line in a series of successive jerks. There is momentary rest at different points during which the eyes take in the word stimuli which are interpreted or perceived as meaning. Reading is an intricate process depending on the cooperation and coordination of various physical and mental functions. Attention is one of these.

MOTOR REACTIONS TO ATTENTION. When a calm, relaxed dog suddenly pricks up his ears, raises his head, and makes a rumbling sound in his throat, he is responding by motor reactions to stimuli that have aroused his attention.

Human beings respond to indistinct sounds by turning the head in the direction of the sound, listening intently, closing the eyes, and perhaps cupping the ear. These are motor adjustments that facilitate attention.

CONDITIONS THAT ATTRACT ATTENTION. Out of the hundreds of things in the environment that bid for attention, how is it that some attract it and others do not? The most important factors or conditions that exercise a selective influence on the attentive processes are, (1) intensity, (2) repetition, (3) novelty, (4) change, and (5) interest.

Strong or intense stimuli, such as loud or sharp sounds, bright colors, strong colors, or extremes in temperature attract attention either voluntarily or involuntarily.

The repeated stimulus sooner or later gets its bid for attention. The annoying drip, drip, drip of the faucet; the repeated tune; the recurring motive in decoration; the all-too-frequent repetition of 'commercials' on the radio; and the repetitions of advertisements in magazines and on bill boards are fa-

miliar examples of the factor of repetition of stimulus.

The novelty factor in attracting attention expresses itself in unusual and unfamiliar objects or situations. Odd or strange things have a strong tendency to draw attention to themselves. The circus makes a strong appeal to children and many adults largely because of this factor. Advertising makes ingenious uses of this factor.

Any change from the accustomed stimulus arrests attention. It need not be an intense change but merely a change from old routine habits and customs. The new picture on the wall; the rearranged furniture in the room; the moving advertising sign; the unbearable quietness when the clock stops ticking; the gestures, inflections, bodily movements and expressions of the public speaker are some common illustrations of the change in stimulus attracting attention.

Without doubt interest is the greatest factor in attracting and holding attention. Children have little trouble in paying attention to things that interest them. Interest stimulates the processes of attention and perception and increases the power of observation. Without interest outstanding achievement is impossible. Interest consists largely of good habits of attention, and as such can be acquired.

DEVELOPING THE POWER OF ATTENTION. The power of sustained attention develops with maturity, experience, and practice. The experimental evidence though not extensive, and often concerned with narrow mental functions, supports the view that with advance in age and mental maturity go increased powers of sustaining and concentrating attention. The power of attention is developed by forming good habits of attending, which involve the ability and willingness to concentrate and of ruling out and overcoming distractions. Underlying these are such factors as a definite purpose, goal, set, or attitude, coupled with a mental alertness of seeing qualities, characteristics and relationships in the objects or ideas attended to. The laws of habit formation (see *Habit*) apply here as they do in all learning.

OVERCOMING DISTRACTIONS. Concentration of attention involves to a large degree overcoming distractions or

forming the habit of not paying attention to distracting stimuli. The office worker learns to rule out distracting noises and other disturbances to attention as he works at his desk. He trains himself not to pay attention to them. Distractions may be overcome by putting forth extra effort on the task in hand. Laboratory experiments show that under distracting influences the learner puts forth extra muscular force, clenches his fists, grits his teeth, wrinkles his brow, and that his breathing and pulse rate increase, but that his efficiency is kept up and even increased under the distraction. Then, also, distractions may be overcome by getting in the right attitude toward work and toward distractions. A definite purpose arouses a positive attitude toward work. This arouses interest, and with interest aroused attention is controlled and concentrated.

ATTENTION DISORDERS. In clinical practice we meet with varying degrees of attention disorders, ranging from minor forms of inattentiveness and distractibility to extreme states of absent-mindedness, fixity of attention, and flight of ideas. The span of attention and the power of sustained attention increase with maturity and experience. In children these are short and weak in the beginning but increase regularly with normal mental growth and educational development. The very small child is dependent upon the immediate stimuli of the environment to attract and hold his spontaneous attention. He is incapable of experiencing sustained attention because he has no background of experience, or at least a very limited fund, upon which to base a chain of associations for continuous attention. As he grows older his range of experience increases and with it he builds up a general fund of memories and conceptions which enables him to control and sustain his attention more and more.

Sometimes, through faulty training, overindulgence and lack of discipline, or defective sensory mechanisms children fail to develop normal attention and so become careless and flighty in their habits of observation and concentration. For example, there is the child who has his every whim and caprice satisfied by overindulgent parents, who finds the effort of concentra-

tion required for doing his school work too great for his warped and undeveloped attentive processes. He becomes a problem child, resents the efforts of teachers and parents to lead and assist him, refuses to be disciplined, and accepts failure without apparent injury to his pride and feeling of self-esteem. He becomes seclusive, anti-social, belligerent, stubborn, and morbid. What response he makes is done grudgingly and as a result of coaxing and bribing. He develops a warped personality. Or there is the boy who has been pampered and handled as if he were a toy during his preschool years. He finds the serious business of school too much for his flighty and undeveloped powers of concentration. He will not and can not hold his mind on anything that requires sustained attention. He also develops an anti-social personality. In the guidance clinic these types of attention disorders are corrected through exercises that gradually develop the power of concentration and voluntary attention. In addition to such exercises, the clinical treatment consists of a program of re-education aimed at correcting emotional and personality defects.

In mental diseases we find many deviations from the normal processes of attention. These range from the dulling or blunting of attention found in advanced demential states, or in the stuporous states of dementia praecox and manic depressive psychosis, to the fixed state where a patient attends to one stimulus for a long time and ignores all others, as seen in paresis and senile dementia, through states of high divertibility or distractibility found in various neurasthenic states, excited states of paresis, certain deliria, and infection psychoses. In the manic phase of the manic depressive psychosis it is observed as "flight of ideas", where irrelevant ideas follow one another in rapid succession. This type of attention disorder is found in a chronic form in the person with a psychopathic constitution.—A.D.M.

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AUTHORITY. Adult attitudes toward authority reflect the individual's experiences with the earliest authorities in his childhood, the parents. Destructive attitudes toward government and organized society frequently express an unresolved Oedipus complex (q. v.) The goal of child guidance should be to have the child grow up with the attitude that authorities are wise, benevolent, and protective. Verbal assurances alone will not achieve this attitude. The right experiences will.

When the parent or other authority is capricious or inconsistent, faith in his wisdom is shaken. If parents disagree and compete with each other for the child's "obedience", respect for both is lost. Punishment, actual or threatened, may make the parent appear hostile to the child, and reprisals may be evoked. Hostile attitudes toward the father as authority may be later transferred to the school principal, the local police, and eventually to the employer, the government, and the social order.

E. Benjamin has found that negativism, resistance, maliciousness, and feeding difficulties arising between the ages of two and three years usually result from anxiety or inner insecurity. They occur where the marital life of the parents is unhappy and the mother fails to give her child enough love. Treatment consists in teaching the mother how to handle her child and how to allow him independence and responsibility.

Our ancestors used to try to inculcate respect for authority by severe punishment, not only for disobedience but even for verbal questioning. Today we know that this method breeds either rebellion or subservience, both of which unfit the child for effective participation in a democratic society.

Many intelligent families today limit the exercises of authority to the enforcement of rules for health, safety, and mutual welfare, and even here the emphasis is on learning the approved forms of behavior rather than on submission to the momentary whim of the adult.—M.F.M.

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See: INTEGRATIVE BEHAVIOR; DOMINANCE; DOMINATION; FRUSTRATION; AGGRESSION; CULTURE CONFLICT; MASOCHISM; SUPERIOR CHILD.

AUTISTIC THINKING, NORMAL. Autistic thinking is a form of day dreaming in which the child indulges when thwarted to the extent that he is forced to get most of his satisfactions from the fabrications of his own imaginations. Autistic thinking differs from ordinary fantasy or day dreaming in the fact that the child draws within himself, rarely relates his dreams, and fails to distinguish his fabrications from reality. The ordinary day dreamer exercises some control over his thought process and is able to break off at will. In insanity of this type, the person withdraws completely from reality and is not even responsive to the conversation of those about him but is entirely enveloped by his own thoughts and blocked from the outer world by his own imaginings.

Normal thinking is realistic and constantly seeks to verify its fabrication with facts. It also is social in that it is responsive to other people's criticisms. Autistic thinking is wishful thinking in the sense that such thinking makes unreality a fact to the individual to the extent that it satisfies him as much as reality would. A person who secures his satisfactions in this manner does not strive to succeed further.

—M.L.S.

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See: DAY-DREAMS.

AUTISTIC THINKING, PATHOLOGICAL. Bleuler designates as "autistic" or "deristic" a type of thinking which does not follow the rules of logic and which proceeds without due consideration of reality. This mode of thinking in its extreme form is seen in schizophrenia although it occurs at times in normal persons also. The daydream is one of the most common examples of autistic thinking. "Each of us has also his fairy tale," says Bleuler, "in which he is rich, powerful, healthy," etc. choosing commonly "those advantages in which he is hopelessly lacking." The normal person never loses entirely the knowledge that all these pleasant dreams are just dreams. For a schizophrenic patient, on the other hand, the dream world replaces more or less completely the world of reality. "He does not TELL a fairy tale, he does not READ one, he LIVES his fairy tale."

Much of the child's play is a type of autistic behavior founded upon autistic thinking which utterly disregards logical contradictions and in which the difference between fantasy and reality is largely effaced. However, "whilst the playing child never loses certain feelings that he himself puts something into the things, to the deranged these ideas correspond to reality." There is nothing pathological in the child's autism. On the contrary, Bleuler believes that it has definite value. "The child accustoms himself by his fantasies to the situation of his future life; in autistic activity he exercises his power of thinking, as the kitten does his hunting capacity in play."

Poetry, mythology, legendary lore, beliefs in magic and witchcraft are further examples of "a form of thinking that acts independently both of logic and of reality."

An outstanding characteristic of the autistic thinking of certain schizophrenics, according to Bleuler, is an excessive use of symbols which furthermore may be confounded and taken as identical with the things which they normally should only represent. Another "is the systematic shifting of sexual conceptions to other parts of the body, more especially upwards." Thus Bleuler states that in some instances the poisoning delusions of women are related to the idea of oral impregnation. A further characteristic of autistic thinking is that the

grossest contradictions may exist side by side. Thus, for instance, the patient may claim that he is President of the United States and at the same time quite willingly carries out menial tasks in the hospital. These incongruities are either entirely disregarded or more or less skillfully bridged by additional delusional productions. The schizophrenic patient in his autistic way of thinking often experiences wishes as already fulfilled. Marked ambivalence and rather close relation to sexuality are also mentioned by Bleuler as characteristic for autistic thinking. According to this author, autistic thinking may be conscious or unconscious but "in cases which have pathological significance it is almost always unconscious."

According to the conception of Bleuler, logical thinking and autistic thinking are both present in every person. Normally autistic thinking is kept in check by logical thinking. The former may, however, get the upper hand under the following circumstances: "1. As with children, who have not enough experience to discriminate logical possibilities; 2. In subjects which are not sufficiently accessible to our knowledge and our logic; in the questions of the first principles, in the 'weltanschauung,' in religion, in love; 3. Where for any reason the emotions obtain too great a significance, as in strong affects, be they pathological or normal, whether they are caused by accidental circumstances or by the subject's own temperament; 4. Where the connection of associations is loosened, in dream, in schizophrenia and so on."

The thinking disturbances in schizophrenia which Bleuler had primarily in

mind by developing the concept of autism have been subject in subsequent years to extensive study by many authors such as Storch, Domarus, Bychowski, Schneider, Cameron, Wegrocki, Hanfmann and Kasanin, and others. Some outstanding items from the extensive literature on the problem of schizophrenic thinking disturbances are included among the references.—A.A.

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See: SCHIZOPHRENIA.

B

BEDTIME. See **SLEEP.**

BEHAVIOR PROBLEMS. Countless problems of misbehavior the causes of which lie partly in the child's bodily defects and ailments, but mainly in home conditions, environment and experiences unfavorable to the child's social adjustment.

See: **AGGRESSION, CHILD DELINQUENCY, DEPENDENT CHILDREN, EMOTIONAL PROBLEMS, FRUSTRATION, INFERIORITY, MENTAL HYGIENE, NEGATIVISM, OVERPROTECTION, PAMPERING, PARENT-TEACHER RELATIONS, PROBLEM TENDENCIES, QUARRELING, SIBLING RIVALRY, TEMPER TANTRUMS, TRUANCY.**

BINET TEST. The Binet-Simon intelligence test is the most important and the most widely used single device for measuring the level of mental ability. Although no longer employed in its original form, its numerous revisions are used extensively throughout the world. It was first published in 1905 by the French psychologist Alfred Binet and his assistant Th. Simon. It was intended to serve as a device for separating, from among the school children of Paris, those who could not profit from ordinary classroom instructions.

The original scale, which consisted of only thirty items, was revised in 1908, the tasks having been grouped by age. The new range was from three to thirteen years, with a varying number of items in each group. In 1911, Binet again revised his test, changing some test items, omitting others, and extending the range to the adult level.

The value of the Binet tests was soon recognized by workers in many

countries. In the United States Goddard translated the first two revisions, and in 1910 he first used them in the Training School at Vineland, N. J.

THE STANFORD REVISION OF THE BINET-SIMON TEST. In 1916, Terman published the Stanford Revision. This revision is a scale of 90 test items subdivided into twelve age groups. They range from year III to XIV, Average Adult, and Superior Adult. The last two are called XVI and XVIII years, although their actual value is 16-6 and 19-6, respectively. The test items are arranged in the order of ascending difficulty. They involve such simple responses as pointing to the various parts of the body, on the III year level, to problems demanding considerable ingenuity on the Superior Adult level. Various aspects of intelligence are supposed to be tested such as vocabulary, ability to repeat digits forward and backward, interpretation of fables, drawing designs from memory, etc. The technique of administration and scoring is rigidly standardized.

THE NEW REVISION OF THE STANFORD-BINET. In 1937, Terman and Merrill revised the above test. In the light of more recent knowledge of mental testing, this revision constitutes an important contribution to the field. Some of its advantages over the older form are: (1) Improved instructions for administration and scoring. This in turn increases the validity of the test. (2) Introduction of two alternative forms (L and M). (3) Better standardization and wider age range (year II to Superior Adult III, M.A. 22-10). (4) Increase in the number of test items from 90 to 129. (5) Correction of excessive dependence on verbal matter on lower levels, by introducing the more interesting and more valid non-verbal material. (6) Greater objectivity in

scoring. The purely practical improvements consist of ease of scoring, convenience of administration, saving of time, and appeal to the subject.

The Terman and Merrill revision, like its forerunner, is subdivided into age groups ranging from tasks that are suitable for the very young, to those that are intended for the highly intelligent adult. The age groups from year II up to year V are subdivided into half year intervals and, as indicated above, are rich in non-verbal material. Miniature automobiles, cups, spoons, tiny toy dogs, cats, and a locomotive constitute some of the testing equipment intended for the early years.

The test has been carefully standardized on American-born white children. No particular nationality or group has been eliminated. However, special attention was given to the geographic distribution of the subjects and their socio-economic status. Thus, an approximately "random" distribution was obtained. Since the test is intended to measure not only the intelligence of children, but that of adults as well, a special provision for the latter group had to be made. Therefore, in computing the mental age of the adult, an assumption is made that the yearly gain begins gradually to decrease at the age of thirteen, and is practically zero for most individuals at sixteen and above. A simple method for calculating the I. Q. for individuals, who are above sixteen as well as ready made tables are available. It is sometimes desirable to express the I. Q. in terms of Standard Score. In the particular test the S. D. (SIGMA) is equal to 16. The "practice effect" does not seem to distort the scores a great deal. It tends to vary with the age of the subject, rather than his I. Q. and ranges from 2.6 at C.A. 2.0 to 2-6, up to 4.0 at the age of 17-18. The P.E. (I.Q.) is approximately .03 the I.Q. itself. This means that chances are even, that a score falling between 90-109 will not differ from the true score by more than 3 points. The reliability of the entire test tends to vary inversely with the size of the I.Q. ranging from .898 at I.Q. 130 and above, to .982 at I.Q. 70 and below. The coefficients of correlation between forms L and M vary from .85 to .95 with a median value of .91.

Despite its careful standardization

and its high validity and reliability, The New Stanford-Binet may be rendered highly misleading or worthless if handled by an unskilled examiner. It is therefore extremely unwise for a teacher or a parent inexperienced in psychometric testing to attempt to administer this test. The qualitative interpretation of the numerical data as expressed in terms of I.Q., M.A., or Standard Score, should best be relegated to an experienced psychometrician. For more general interpretation the following table may be used as a tentative guide, although there is reason to believe that the values for the upper feeble-minded group is too high.

I.Q.	Classification	Per cent of School children
above 130	"Gifted"	1
120-130	Superior	5
110-120	Above average	14
90-110	Normal	60
80-90	Below average	14
70-80	Inferior	5
below 70	Very inferior, possibly "feeble-minded"	1

Other similar tables are frequently encountered in psychological literature with the numerical values and their designations varying somewhat.

For children, these scores give a predictive value in estimating their ultimate school success. Thus, a child with an I.Q. below 50 will probably never do first grade work adequately. Children with an I.Q. of 60-65 will probably not go beyond IVth or Vth grade. Children with an I.Q. 70-80 may be expected to complete VII-VIIIth grade, especially if given special attention. Children with an I.Q. range from 90-110 constitute the bulk of the school population. Those at the lower limit will have difficulty in high school, while those in the upper range represent the average high school graduate. Those with an I.Q. below 115 may have some difficulty in college. Those above this level should have no difficulty with their college courses, at least as far as their intellectual ability is concerned.

OTHER REVISIONS OF THE BINET. Hildreth reports 68 revisions of the Binet. Some of the best known revisions are: THE POINT SCALE published by Yerkes, Bridges and Hardwick (1915) and later revised by Yerkes and Foster

(1923). This scale is composed of twenty tests, nineteen of which are taken from the Binet. Each test is in turn subdivided into several parts. The tests are not arranged according to age levels as in the Stanford revision, but generally speaking in the order of difficulty, the subject being credited for the items passed successfully in terms of points. Partial credit may be given, the maximum score being 100. The point scale is easier to revise and manipulate statistically to suit the particular needs, and requires far less preparation for administration and scoring. The child's intelligence is expressed by the ratio between his performance and that of other children of his own age. This ratio is called the Coefficient of Intelligence (C.I.) and like the I.Q. is 1.00 for the normal child, above 1.00 for the superior child, and below that for the inferior subject. It should not however be assumed that the two values are fully equivalent and that a C.I. of 110 is identical with the I.Q. of 110.

THE KUHLMANN REVISION, like the Stanford test, is subdivided into age levels, but instead of six items each group has eight sub-tests. It extends down to the three months level. Both scoring and standardization are highly objective, with items influenced by training eliminated. Considerable skill and experience are essential for its proper administration and scoring; a fact which might be responsible for its being used less frequently than its accuracy would warrant.

THE HERRING REVISION. This test is also a point scale, the total score being determined by the number of items passed by the subject, and interpreted in terms of norms for the particular age. The test is subdivided into five groups, with each group serving as a separate short test. Any group may be added or excluded from the battery depending on the quality and level of performance. Since most of the items are taken from the Binet, it correlates very highly with the Stanford revision (.98). It is simple to administer and to score, and requires little preparation. From the standpoint of economy, it may be preferred to the more cumbersome and longer individual tests.

THE HAYES REVISION. This revision of the Binet is intended for the use with blind subjects. It can be used in in-

stances where other revisions would not yield meaningful results.—H.S.

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See: INTELLIGENCE TESTS.

BLINDNESS. Definition: Blindness means inability to see, but since the loss of sight may occur in various degrees there has been much difficulty in determining the exact usage of the word. Definitions of blindness have ranged from the total absence of the ability to distinguish between light and dark to that degree of vision generally known as "useful vision". The definition drafted by the Committee on Statistics of the Blind and now commonly preferred in scientific and government circles is as follows: central visual acuity of 20/200 or less in the better eye with correcting lenses; or visual acuity greater than 20/200 but with a limitation of the fields of vision such that the widest diameter of the visual field subtends an angle no greater than 20 degrees. In non-technical terms this means that a person with 20/200 vision on the Snellen chart can see at 20 feet only those objects or characters which a person with normal vision can see at 200 feet. If the defect is not in the center but in the periphery of the eye, the field of vision is so restricted that he can see only a very limited area at one time and can make little

practical use of his vision. Children with this degree of loss of vision are eligible for admission to residential schools or public school "braille" classes for the blind; adults are eligible for blind compensation and financial assistance. Children with a less serious defect, from 20/200 to 20/70 on the Snellen chart, are classed as "partially-seeing" and are eligible for admission to sight-saving classes in the public schools; adults with an equivalent visual defect would be handicapped in reading ordinary type, but could carry on most manual occupations involving eye-hand coordination, and would be considered as seeing, rather than as blind, people.

PREVALENCE. There are no reliable statistics upon the extent of blindness in the U. S. From 1830 to 1930 the U. S. Bureau of the Census reported the numbers, ages, etc. of the blind people discovered, but the data proved to be so incomplete and unrepresentative of the total blind population that the item on blindness was omitted from the 1940 census schedule. State-wide surveys and statistics showing the number of persons on blind assistance rolls give a somewhat better basis for estimating the number of the blind. A conservative estimate based on these data places the total number of blind persons at not less than 150,000, while some statisticians put the figure as high as 200,000. The incidence of blindness would appear to be in the neighborhood of 1.5 per thousand of the general population. The number of partially-seeing is probably higher. It has been found to be 2.0 per thousand in the school-age group. Blindness is rarest among the very young and becomes more common with increase in years. Recent estimates indicate that less than 1 per cent of the blind are under 5 years of age, and that not more than 10 per cent are under 20 years of age, while at least 50 per cent are past 65. About two-thirds lose their sight after they have passed school age. Blindness is somewhat commoner among males than among females.

CAUSES: The Committee on Statistics of the Blind gives a report for the school year 1939-40, which includes cause-of-blindness data (cross-classified by type and site of eye affection), for 4644 pupils in residential schools locat-

ed in 32 states and day-school classes in 13 cities. They find about one-fourth (23.8 per cent) of blindness in children to be due to "infectious diseases". Of these ophthalmia neonatorum (babies' sore eyes) is still the most important cause (10.6 per cent of the total), in spite of the intensive campaign started in 1907 which had resulted in a drop from about 28 percent among children entering schools for the blind in 1907 to about 8 percent in 1937. Syphilis is next on the list (4.7 per cent). This figure is believed by the Committee to be an understatement of the true facts, as many cases may be concealed in items such as "prenatal origin, cause not specified" because the examiner did not, or could not, establish the true cause. Meningitis (1.9 per cent) is the only other item of importance, although it should be mentioned that trachoma is much more prevalent in some states than the figure (0.6 per cent) would indicate. Data in the hands of the Committee for groups of adult recipients of blind assistance in several states show similar numbers of cases due to infectious diseases (23 per cent) but with syphilis at the head of the list. Traumatic injury accounts for 8.0 percent of blindness among children, with "play or sport" (particularly those activities involving sharp or pointed objects, blows or falls, firearms, and other explosives including fireworks) most prominent (4.7 per cent). Among adults, accidents, both occupational and non-occupational, are the known cause in 13 per cent of cases. Probably this percentage should be higher since those receiving compensation for occupational injuries are not included. "Neoplasms" (tumors) account for about 3 per cent of blindness among children and 1 per cent among adults. "General diseases" such as diabetes, nephritis and diseases of the vascular or nervous systems account for 2 per cent of blindness among children and 6 per cent among adults. Heredity is responsible for a considerable amount of blindness. It is an established factor in 2 per cent of blindness among children and adults; is presumed to be present in at least an additional 11 per cent of blindness among children; and may be the causal factor in many additional cases among both children and adults whose family histories have not

been investigated.

EDUCATION OF THE BLIND: It was only about 150 years ago that the education of the blind began. Before that time the blind lived in poverty and ignorance depending upon charity for their support. In the last quarter of the 18th century Valentin Haüy, in Paris, took a blind boy from the streets, and succeeded in teaching the boy enough to convince himself and his friends that the blind could be educated. In 1784 the first school for the blind was established in Paris, to be followed soon by schools in Vienna, Berlin, Edinburgh and Glasgow. Between 1829 and 1932 three residential schools were founded in the United States under private auspices and located in Boston, New York and Philadelphia. In 1837 the first state-supported school for the blind was established in Ohio; other states followed suit and now every state in the Union either has a residential school within its borders or provides for the education of its blind children at a school in a neighboring state.

These residential schools in the U. S. aim to give the blind an education equal to that offered to the seeing, the states bearing the expense both of education and of maintenance. So far as possible the same subjects are taught as in schools for the seeing, though the lack of vision necessitates various changes in methods of teaching. The blind must learn to read and write with their fingers, using an embossed type formed by various combinations of six points, invented by Louis Braille in 1828 when he was a teacher in the Paris school. Arithmetic may be taught by means of a slate with another kind of tactual type, or through extra drill in the simpler processes supplemented by various short-cuts and supported by the use of braille. In geography embossed and bas-relief maps, globes and dissectable maps give much help. Models of large objects and specimens from nature replace the pictures which fill the textbooks of the seeing.

But education through the fingers is a slow process. Standard tests have repeatedly shown that on the average blind pupils read only about one third as fast as seeing pupils in the same grades. Partly as a result of this factor and partly because many blind children enter school late, often after years of

neglect in the home, we find an age-grade retardation of about two years in the better schools, and a still greater retardation in others. Of course, teachers of the blind give as much instruction as possible orally to make up for the slowness of tactual reading, and many schools include the radio School of the Air and Talking Book records for supplementary material. A number of schools have begun the regular use of the Stanford Achievement tests to determine the success of their work and the combined results from 600 pupils in nine schools indicate that these blind children are doing about as well as seeing children in the same grades.

Certain special advantages are provided for the blind in residential schools. Physical education is emphasized to counteract the sedentary tendencies incident to blindness, many schools having gymnasiums, some having swimming pools or bowling alleys, and some having specialists in physiotherapy. Various manual arts are taught, partly to develop skill and confidence in the use of the hands, and partly as a basis for useful activity in home or factory. Typing is a regular part of the curriculum, and is combined with the use of the dictaphone by pupils preparing for commercial positions. Music, the art which may be most successfully pursued without sight, occupies a prominent place. All who can sing have regular choral practice, and those of promise receive individual instruction. Some schools have orchestras or bands, and many pupils are given instruction on special instruments, particularly on the piano. Piano-tuning is a popular vocation for the blind, many of whom return to the schools after completing their regular course to perfect themselves in such repair work as may accompany tuning.

Interest in kindergarten training for blind children was brought to the attention of their teachers in 1880, the year in which kindergartens for the seeing were adopted by the public school system, and in 1887 organized kindergarten instruction of the blind was begun with the establishment of the Perkins Kindergarten at Boston, through the efforts of Michael Anagnos. Other schools gradually took up the work and at present eighteen residen-

tial schools have kindergarten departments, while twenty-five include kindergarten training in the regular first-grade program. The wide differences among the little blind children entering the kindergarten make this a proving ground for regular school work rather than a definite educational level at which certain activities may be expected of all. Some few children enter school with an excellent home training and can pass through the kindergarten period rapidly and easily. But the majority seem to have had little preschool training and need help in personal habits and socialization before they can enter a grade. Various attempts have been made to insure better preschool training, from the beginning of the education of the blind. In 1830 Johann G. Knies, the head of the school in Breslau, Germany, published "A Guide to the Proper Management and Education of Blind Children During their Earlier Years", and his example has been followed by many heads of schools and teachers of blind children in America. At the beginning of the twentieth century several nursery schools for blind babies were established, and one, the Boston Nursery for Blind Babies, was sufficiently endowed to continue its useful work through the recent debate over this system of training. For while conceding that there are homes so wretched and impoverished that a healthy blind baby can have no chance, and that blind babies have secondary handicaps which necessitate greater care than the ordinary home can give, educators of the blind are inclined to feel that the disadvantages inherent in institutional life for the very young may easily outweigh the advantages, and that the proper training of a blind preschool child may be best achieved through advice and instruction to the parents from a specially trained teacher or field worker, as is the custom in Cleveland, Ohio.

Another problem upon which there is still heated debate, is the question of the relative merits of residential schools versus day school classes for the blind. Since blind children are relatively few in number and scattered through the general population in country and city, it is generally considered unduly expensive to provide special equipment and special teachers for

them in the public schools. But such a class was started in Chicago in 1900 by Frank H. Hall, Supt. of the Illinois School, whose recent invention of a braille writer and a stereotyper made it possible for teachers to provide their pupils with reading material. In 1940 about 500 blind children were enrolled in "Braille" classes in public schools in 21 cities as compared with about 6000 in residential schools. In these classes the customary procedure is to have the children recite in the regular classes but return to the "home room" for study where they may use the special tactual material and receive help from a specially trained teacher who attempts to adapt the content of the curriculum to the blind children. Such a teacher would be expected to teach the reading and writing of braille, assist the children in using maps, models, etc., read aloud to them or provide in braille such material as is not already provided in braille textbooks. While such a plan lacks the richness of education provided by a residential school, it allows the child to live at home, thus avoiding the dangers of institutionalism, and gives an opportunity for normal contacts with seeing children both in the class and at play, which may make it easier for a blind child to live in the seeing world after school days are over.

Both residential schools and public school classes provide facilities for education through high school, commonly using the results of intelligence tests to determine which pupils will profit by the opportunity. Several adaptations and modifications of the Binet-Simon tests have been in use for the last twenty-five years and the Hayes-Binet adaptation of 1930 is now being gradually supplanted by a selection of the Terman-Merrill tests of 1937 which can be given without vision, and the verbal series of the Wechsler Adult Intelligence tests, with his vocabulary test substituted for his digits test. In most residential schools for the blind there is a considerable group of children classed as "specials", who have enough intelligence to do the work of the lower grades, but must spend the remainder of their school days chiefly in manual rather than academic work. For those able to finish the grades, alternative courses are frequently offered—voca-

tional training, including piano-tuning for the boys and handicrafts for the girls, commercial training, music training, especially in piano, organ and voice, and college preparatory and literary courses. Relatively few blind students seek higher education in a college or university, since only the brightest and most industrious can meet the demands; and the vocational opportunities for blind college graduates are too few to justify the sacrifices involved. Those who do enter college depend upon braille for their notes and the typewriter for their papers and correspondence. Sixteen states provide moderate funds to pay for readers, since very little college text-book material is available in braille. A few blind students have taken Seeing-Eye dogs to college to act as guides, thus gaining a considerable degree of independence.

THE MULTIPLE HANDICAPPED: Unfortunately a certain number of blind children are burdened with a second handicap. Contrary to the common assumption that the blind are compensated for their loss of vision by an increased acuity of the other senses, there are some cases in which meningitis has reduced or destroyed the sense of touch and a blind child has great difficulty with braille; there are a considerable number who are deaf or hard-of-hearing; some who are crippled; and a considerable number who are defective in mentality. The deaf-blind child may be sent either to a school for the deaf or for the blind where he is placed under the care of a special teacher. The Perkins Institution and Mass. School for the Blind at Watertown, Mass., started work with the deaf-blind over 100 years ago, when Dr. Howe developed methods for the education of Laura Bridgman. This school has a department where deaf-blind pupils from all over the U. S. are educated. Recently the New York Institute for the Education of the Blind also established a deaf-blind department. Crippled blind children are instructed in their own homes by a visiting teacher when funds are available. Blind feeble-minded children who are clearly custodial cases are not accepted by residential schools for the blind, both because these schools are primarily educational institutions, and because the lack of mentality is considered the major handicap. But

much leniency is shown with borderline cases, especially when the deficiency shown at entrance may be interpreted as retarded development due to neglect or restraint in the home. Recurrent intelligence tests and other indications of progress in school work determine the ultimate disposition of such cases. Some institutions for the feeble-minded employ special teachers and make special provision for the blind feeble-minded.—S.P.H.

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BOOKS. Any library or large book store will assist parents in the choice of American or English classics of child literature. If parents wish, however, to gain a thorough insight into such books, it may be advisable for them to purchase a copy of M. B. Huber's **STORY AND VERSE FOR CHILDREN** (1942) or of Josette Frank's **WHAT BOOKS FOR CHILDREN?** (Doubleday, Doran & Co.) Though some literature of continental Europe is contained in these excellent volumes, parents of older children, particularly boys, will do well to procure for them an adequate representation of translated classics, such as works by J. L. Tieck, Alexandre Dumas-pere, or Jules Verne, L. N. Tolstoy's **CHILDHOOD, ADOLESCENCE AND YOUTH**, and of course, Cervantes' **DON QUIXOTE** in a proper edition.

More difficult is the problem of being up-to-date with child literature. The following selection of titles, drawn from **BOOKS OF THE YEAR FOR CHILDREN** (Child Study Association of America, 1942), may prove to be helpful: **AGES TWO, THREE AND FOUR:**

The Tall Book of Mother Goose (Harper)

The Woolly Lamb, by H. Hoke and N. Fox (Messner)

The Little Farm, by L. Lenski (Oxford)

The Telephone Book, by D. Kunhardt (Simon & Schuster)

Watch the Pony Grow, by W. Hall (Crowell)

Anybody at Home?, by H. A. Rey (Houghton Mifflin)

The Jumbo Sambo, by H. Bannerman (Stokes)

AGES FIVE, SIX AND SEVEN:

The Little House, by V. L. Burton (Houghton Mifflin)

Marshmallow, by C. T. Newberry (Harper)

Zig-Zag, the Crocodile Bird, by R. Kissin (Messner)

The Secret of the Ancient Oak, by Wolo (Morrow)

The Wishing-Window, by H. Flexner (Stokes)

Johnny Jump up, by J. Hooper (Macmillan)

Soldier Sammy, by M. G. MacNeill (Oxford)

The Merry Shipwreck, by G. Duplaix (Harper)

Elizabeth, by H. A. Rey (Harper)
Cecile G. and the Nine Monkeys, by H. A. Rey (Houghton Mifflin)

Tit for Tat, by H. A. Rey (Harper)

AGES EIGHT, NINE AND TEN:

Mr. Bumps and His Monkey, by W. la Mare (Winston)

Tom Whipple, by W. D. Edmonds (Dodd Mead)

Herodia: the Lovely Puppet, by K. Milhous (Scribner's)

Augustus Helps the Navy, by Le Grand (Bobbs-Merrill)

Silver Widgeon, by E. Wood

Frederic Chopin, by A. Maurois (Harper)

Bag of Smoke, by L. Anderson (Viking)

The Doolol who Came Alive, by E. Tregartheu (John Day)

Poo-Poo and the Dragon, by C. S. Forrester (Little Brown)

How Old Stormalong Captured Mocha Dick, by I. Shapiro (Messner)

Favorite Stories Old and New, sel. by S. M. Gruenberg (Doubleday Doran)

AGES TEN, ELEVEN AND TWELVE:

A Green Field for Courage, by C. T. Cooney (Howell, Soskin)

The Middle Moffat, by E. Estes (Harcourt Brace)

Carolina Caravan, by C. N. Govan (Houghton Mifflin)

Hill of Little Miracles, by V. Angelo (Viking)

We'll Take the Skyway, by I. Eberle (Crowell)

Junior Air Raid Wardens, by J. Bechdolt (Lippincott)

Coast Guard to Greenland, by A. Molloy (Houghton Mifflin)

Missee Lee, by A. Ransome (Macmillan)

Snow Treasure, by M. McSwigan (Dutton)

Happy Times in Norway, by S. Undset (Knopf)

Jorge's Journey, by A. C. Desmond (Macmillan)

The Dragon Ship, by W. S. Resnick (Coward-McCann)

They Came from Sweden, by C. I. Judson (Houghton Mifflin)

The Three Hanses, by J. David (Little Brown)

Noah Webster, by I. Proudfit (Messner)

AGES TWELVE AND OVER:

Stormy Victory: The Story of Tchaikovsky, by C. L. Purdy (Messner)

David Glasgow Farragut, Our First Admiral, by W. O. Stevens (Dodd Mead)

MacArthur of Bataan, by H. Nicolay (Appleton-Century)

There Were Giants in the Land, by S. V. Benet and others (Farrar and Rinehart)

Catch a Falling Star, by G. Robinson (Dutton)

Sandra Kendall, by E. W. Porter (Dodd Mead)

Dynamo Farm, by A. Allen (Lippincott)

All-American, by J. R. Tunis (Harcourt Brace)

Jackhammer, by A. D. Hewes (Knopf)

They Were Expendable, by W. L. White (Harcourt Brace)

The Raft, by R. Trumbull (Holt)

Salvage: A Modern Sea Story, by F. Riesenbergl (Dodd Mead)

The Courage and the Glory, by J. J. Floherty (Lippincott)

When the Typhoon Blows, by E. F. Lewis (Winston)

The supervision of reading should be gradually relaxed when children reach the age of ten or twelve, so as to provide boys and girls with an opportunity to develop their own taste and to direct their interests into more specialized channels.—S.M.G., R.B.W.

See: READING.

BOY SCOUTS. The Boy Scouts of America is the largest non-public organization for boys in America. There are throughout the country more than 50,000 local groups to which a boy may belong. The program, therefore, reaches into practically every village, city and town in the country. This means that the opportunity for joining the movement is available to the vast majority of boys.

The program of the Boy Scouts reaches from nine years of age past eighteen. A boy may become a Cub at nine, a Scout at 12 and a Senior Scout at 15. The Cub program is centered on the home. The Scout program is centered on a local institution such as a church, school or fraternal organization.

Cub Packs and boy Scout Troops are led by volunteer leaders about 45% of whom take the formal training courses offered by the local councils in which the units are located.

The activities of Cubbing are centered on the backyard and the neighborhood.

A scheme of achievement marked by different badges of rank form a large part of the program. The program draws heavily upon parent participation. A Cub Pack is divided into several Dens each of which is led by an older boy known as a Den Chief and supervised by a mother of one of the Cubs. She is known as the Den Mother. The Den meets at least once each week while the Pack meets once a month. The Cub's progress through the program is carried on with the help and supervision of his parents who certify that he has passed the various tests. This means that boys from homes that are unable to cooperate for some reason may not have the same chance to progress in the Cub program as boys from more favored homes.

The guidance values of Cubbing lie in the way it can strengthen the home ties. Where parents have not learned to do things with their children Cubbing offers them some concrete suggestions and has a set of attractive literature to explain it. Where parents cannot or will not cooperate it is sometimes possible to have the Cub assigned to other adults and thus to aid him in the program.

The Cub program is designed deliberately to prepare the boy for and guide him into the Scout program at 12 years of age. The series of achievements during the eleventh year prepare the boy to meet his Tenderfoot Scout requirements at twelve. The idealism of Cubbing is centered in the Cub promise and the law of the Pack which the boy subscribes to when he becomes a Cub.

Boys like Cubbing and there is real social experience to be had in belonging to an active Pack that has strong adult leadership. The main weakness in the scheme so far as guidance is concerned is to be found in the volunteer leadership, the infrequent meetings of the Pack and the strong tie with the home which may make it difficult for boys from broken homes to participate on a par with other boys. Such boys are likely to be the very ones needing the most guidance.

The Scout program which begins at twelve years of age was originally designed to train young men to take care of themselves in the out-doors. Adapted as a program of activities for adoles-

cent boys to carry on in their own informal groups it has demonstrated tremendous appeal to all types of American youth.

Scouts are organized in Troops under the leadership of a volunteer leader known as a Scoutmaster. Troops are composed of several Patrols made up from five to eight boys. Each Patrol has a boy Patrol Leader. The Troop is sponsored by some local institution such as a church or a school and meets in the institution once a week during the winter months. If the Troop follows the Scout program as recommended, it carries on an active outdoor program consisting of hikes, overnight camping trips and a short-term camp during the summer. Thus in the ideal set-up the Scoutmaster is a leader of boy leaders who carry on a series of activities which appeal to boys and which present many individual and group guidance opportunities. The effectiveness of the scheme rests, of course, upon the skill of the Scoutmaster.

As in Cubbing there is an advancement program for Scouts motivated by a system of tangible awards. Scout advancement is based largely upon the skills that have to do with living in the outdoors and rendering service to others. The Scout demonstrates his ability in these skills before a qualified examiner and the award for completion of the requirements for a given badge is usually presented with due ceremony.

Before joining the Scouts the boy must learn the Scout Oath and Law and upon induction into the Troop he promises:

"On my honor I will do my best:

1. To do my duty to God and my country and to obey the Scout Law.

2. To help other people at all times.

3. To keep myself physically strong, mentally awake and morally straight."

The Scout program utilizes the group method of guidance. The basic assumption in this method is that individual behavior is a part of a group configuration and that the individual can often be reached best by dealing with the group as such and by providing it with wholesome activities and desirable ideals. Adult leaders in such a program may not be skilled in the art of

individual guidance but rather have the ability to lead group activities or teach boys to assume responsibility and lead their own group.

Membership in the Scouts or the Cubs is more frequent among boys in the higher economic brackets than in those of less financial resources. This is due in part to the paucity of sponsoring institutions in less-chance areas and the feeling on the part of boys that membership costs more than they can afford. Actual demonstrations in a number of cities have shown that one trained professional worker can motivate a whole neighborhood to organize Scout groups and provide wholesome activities for boys with the expenditure of a relatively small amount of money. Boys of all economic backgrounds enjoy and can benefit from the Scout program if sponsoring institutions and trained leadership can be provided.

There is a rich and extensive literature available dealing with Scout and Cub programs as well as local offices in most cities where help in reference to specific problems can be secured.

—E.D.P.

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BROKEN HOMES. Homes broken by circumstances beyond the family's control, such as death or war, but mainly by circumstances for which one of the parents or both parents are responsible especially in the case of divorce.

See: DIVORCE EFFECTS, WAR EFFECTS.

C

CAMPING. President Elliot of Harvard suggested that camping was the only real contribution made to education in the 20th century. While such a conclusion might be sweeping, there is no doubt that camping has come to be an important part of the educational program in America.

The first organized camps appeared late in the last century, but there were relatively few such camps at the end of the eighteen hundreds. Since that time, however, the camping movement has grown rapidly until it is now estimated that between two and three million children go to camp each year.

The verb "to camp" according to traditional meaning of the term means to live in the open without benefit of modern conveniences. The early camps were exactly what the word implies. The campers lived in tents, cooked their own meals and followed a vigorous out-door program centered around the problems of food, shelter and companionship in the camping situation. However, as organized camping developed, there was a tendency to move definitely away from primitive living conditions and to provide the camper with practically every modern convenience he enjoyed in the city. With the development of these expensive and elaborate facilities there was also a tendency to centralize the program of the camp in mass activities revolving around specialists who dealt with the campers for specified periods during the day.

This type of camp organization has affected the camp program extensively and the result has been a loss of many of the individual guidance values that were possible in the original conception of camping as an opportunity for a relatively small group of young people under the guidance of a competent

adult to have experiences together in the out-of-doors while coping with elemental problems of living.

In recent years there has been a distinct trend toward the original conception of camping. This trend is observable in at least two directions, 1. the decentralization of camp program into smaller, more, self-sufficient units and 2. the increasing number of so-called "work camps" that provide a program of constructive labor in place of a program based on interests and whims of the camper.

KINDS OF CAMPS. Camps can be classified in a variety of ways no one of which is entirely suitable from a guidance viewpoint. A convenient way to classify them is according to sponsorship, but after doing this one should recognize that within these groupings there are wide variations in program and management. On the basis of sponsorship the following major categories emerge:

1. Private camps, conducted for profit as a private enterprise.

2. Organization camps, conducted by Boy Scouts, Girl Scouts, 4H Clubs, Y.M.C.A., Y.W.C.A. or similar organizations. Usually, but not always require membership in the organization.

3. Public agency camps. An increasing number of school systems are conducting camps as a regular part of their educational program. This would also include C. C. C. camps and those conducted by park departments of local, state or national government.

4. Free or low-cost camps for less-chance children, conducted by settlement houses, fresh-air funds, churches and such groups. Usually offered at little or no cost to camper.

In recommending a camp experience for a child one must have in mind the financial status of the family and the

practicability of a given type of camp experience. Those who have studied the spread of camp experience among American youth point out that camping is available most frequently to the very poor and the very rich, while the great middle-class have no adequate camping facilities open to them. This is, no doubt, one reason for the growing school-camp movement. In any event it is true that a guidance counselor may have some difficulty in finding a camp to recommend that is financially feasible. This calls first of all, for a wide knowledge of the camping possibilities in a given community and some funds that can be utilized to aid worthy cases get the kind of experience that is needed.

The camping movement is now widely recognized by educators and social workers as a potentially valuable guidance force for children. Thousands of children with problems find constructive experience in camp situations each year, but the naive faith in the outdoors as an ameliorative panacea to all childhood difficulties is no longer held by those who are familiar with camping methods. Experience and scientific studies have shown that camps differ tremendously and that it is not camping as such but rather the skill with which the camping program is used that determines the effectiveness as a guidance procedure. It is important, therefore, to consider the problem of the specific child against a specific camping program in order to be intelligent in prescribing it as a part of a guidance program.

EDUCATIONAL EFFECTIVENESS OF CAMPING. Under intelligent direction the camp situation offers an unusually effective approach to children. It would be difficult to prove scientifically to what extent this is true but extensive experience in camping in this country has shown the following points to be true.

1. Children generally enjoy camping. It is, therefore, a situation where the latent abilities and desires are likely to come to the fore.

2. In a thirty-day summer camping experience the child has about as many waking hours as in 17 weeks in regular school.

3. The camp presents an opportunity to observe the child 24 hours a day and under all kinds of circumstances.

4. The camp offers an opportunity to correlate many different phases of child life—playing, working, living, eating, sleeping, education, fellowship, etc.,—in a way that makes it possible to deal effectively with the relation of the child to his environment.

5. The camp situation brings the child face to face with reality in a way that is not possible in the city.

SELECTING THE PROPER CAMP. In using camping as a part of a guidance program one must keep in mind the all-important fact that assignment of a child to camp must be done on the basis of the needs of the individual child and the possible contribution of a specific camp. Some camps can contribute best to a nutrition program, others are particularly good at encouraging social relationships while still others may provide a definite set-back to the child. This means, of course, that the guidance counselor must know the camps to which children are to be sent and must be guided by this knowledge in recommending camping as a part of a guidance procedure.

Some of the more important considerations to keep in mind when evaluating a given camp from the standpoint of guidance are listed below:

1. Staff. One of the things that makes the camp potent as a guidance force is the possibility of intimate human relationships. It naturally follows that much depends upon the calibre and training of the people who deal with the child.

There are, unfortunately, some current practices in camps that are not conducive to the selection of the best personnel. Among these is the practice of taking counselors who have a "following" of campers. Another is the acceptance of immature or poorly trained staff members because they cost less.

A good camping program requires the following things of the staff:

- a. A careful and systematic method of leader selection. So much depends upon the type of person who is in a position of leadership in the camp that too much stress cannot be put upon the selection of this personnel. A good camp will have carefully prepared application blanks, will look into the recommendations of the applicant and insist upon a personal interview.

There seems to be a growing tendency among camps to use leaders who have been trained to deal with children and are professionally engaged in this work during the remaining months of the year.

- b. A professional attitude toward camping. Counselors and others who deal with children in camp should seek this type of activity as a career. A camp with a high turnover in leader personnel each year cannot provide the type of expert care that is needed if the child is to get the full benefit of a camping experience.
- c. An adequate training program for the leaders. This should include a year 'round contact with the leaders on the part of the director and an occasional meeting with them. A pre-season training course of from three to ten days is now quite generally used to provide needed training. In addition to this a competent director will be constantly improving the methods of the staff through wise supervision.

2. Follow-up with children. To be most effective the camp experience of the child should be part of a whole related program and not simply a detached experience in the out-doors.

For the camp experience to be most effective there must be careful and systematic preparation before camp, a continual relationship with the home and any other agency involved during the camp period and then a continued follow-up after the camp experience. The idea that a two-week or one-month experience in camp is enough to straighten out behavior difficulties without any other follow-up is no longer tenable. Indeed, some camps carry on a year 'round contact with their campers with winter camping trips at frequent intervals. In some organization camps, a definite attempt is made to follow the campers year after year on the assumption that this type of continual guidance is necessary if the camp is going to be really effective.

The ideal situation, of course, would be for the guidance specialist to work closely with the camp from beginning to end and to pick up the threads of camp influence where the camp leaders left off. In this way there is some assurance at least of carry-over from

camp to other phases of life.

3. Adequate record keeping. If the guidance worker is to use camping experiences intelligently as a part of a general guidance program with a given child, the camp should furnish an intelligent and rather comprehensive record of the camp experience. To be of any real value such records must be carefully kept and accurately transcribed. They should contain data about height, weight, general health, etc. and descriptive accounts of how the child reacted to the camp situations and those around him. Accurate descriptions of what actually did happen are usually more helpful than attempts at subjective evaluation by inexperienced observers.

Adequate record-keeping calls for a folder for each camper in which should be found blanks carrying medical, school, family and social histories. This record to be most useful should be cumulative on each child. Here again is one advantage of a camping program that follows the child year after year and maintains a conduct with other agencies dealing with the child.

THE CAMP PROGRAM AND GUIDANCE. Next to staff the most important thing about a camp is the program and the philosophy behind it. Although the original meaning of the word "camp" had to do with living in the outdoors without benefit of modern conveniences, many so-called camps are really summer hotels where the program revolves around the likes and dislikes of the campers. Strictly speaking, such a program should not be called "camping". The real value of a camping experience rests in the way in which the child is put on his own and lives in a world of reality where basic human experiences that many modern children do not have are mixed with adventure and intimate face to face relationships with others.

The camp program should be carefully geared to the physical needs of the children. Younger children need more rest and more careful supervision of their diet. Undernourished children should not go to a camp that has a vigorous program of activities. A timid child should go to camp where skillful and sympathetic guidance will draw him into relations with others rather than to a camp where the program is based

on continual active competition between groups.

The more progressive camps in the country are moving away from programs based upon artificial awards and competition toward a rounded program based largely upon living in the out-of-doors. In these camps the child participates in a program growing largely out of providing food and shelter for the group of which he is a part. The organization of such camps is decentralized as contrasted with the mass organization of so many camps. The small camp groups, each under a counselor or two, plan and execute their own program in the out-doors. Such a program provides an excellent opportunity for observation and guidance of the child since one adult is with him during the entire day and is able to see the behavior patterns in their true perspective. The leader in such a situation is also able to follow through consistently on a program of guidance that would not be possible in the mass camp.

CAMPING IN THE FUTURE. The indications are that camping will become more widely used by agencies dealing with young people. The C. C. C. program and the establishment of school camps across the country are evidence of the trend in this direction. Recent years have seen the growth of the work-camp idea also and there is a growing disposition among educators to include work camp experience in their educational planning for the future.

The trend toward public school camping is retarded by two things mainly, (1) lack of trained camping leaders in the school and (2) lack of understanding by the public generally of the aims and methods of camping. Both of these handicaps can be overcome by adequate educational measures.—E.D.P.

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CASE HISTORY. The purpose of history taking is to obtain (1) a picture of the child's environment, (2) a record of the child's health and development, physical, mental, emotional and motor, from conception to the moment when he presents himself, (3) an appreciation of the child's personality, and (4) an understanding of the specific complaint, if any, for which the child is brought.

The **CHIEF COMPLAINT.** Where a child is brought because of a specific defect of behavior or personality it is well to record the complaint in the words of the parents. In this way information will be obtained, not only regarding the difficulty in question, but also about the reaction of the parents toward the symptom. One should inquire as to the time when the difficulty started, possible cause of the difficulty, whether it has been improving or becoming worse, how it is influenced by

extraneous circumstances, what secondary complaints there are.

The FAMILY HISTORY should contain information, first of all, regarding ailments in the relatives and siblings which are looked upon as familial. Deaths and miscarriages should be noted. The death of a previous child is apt to lead to parental overanxiety toward other children. Many miscarriages usually increase the desire for a child and thus sow the ground for overaffection when a live infant is born.

A knowledge of the ages of the parents is often of considerable value. For example, parents who were married late in life or who have had to wait a long time before having a child are likely to be overaffectionate, overanxious, overindulging. On the other hand, young parents are not infrequently indifferent or actually rejecting. This is especially apt to be the case when the birth of the child was unwelcome. A wide discrepancy between the ages of the parents may also be significant.

Other relevant information regarding the family includes the religious affiliations of the parents, the economic status of the parents (before as well as after marriage), business and professional activities, social interests. In many instances the family life of the parents before marriage may throw considerable light on the parents' personalities and, in turn, on their attitudes toward the child.

Great care should be exercised in eliciting information regarding the parental attitudes. Direct questioning is of little value, since it puts the parent on his guard and makes him wary. Instead, inquiries such as "How does the child behave?" "Is he an easy or difficult child to bring up?" should be used. A parent who is satisfied with his child's behavior or who finds child-rearing a pleasant task is hardly likely to be rejecting.

THE SIBLINGS. The history should include information about the age, sex and health of the siblings. Wide discrepancies between the ages of the siblings should lead to investigation of the reasons. Jealousy is most pronounced when the older child is 18 months to 3 years old at the time of birth of the second child. Leading questions such as "What sort of child is Mary?",

will often give helpful information regarding parental preferences.

GRANDPARENTS: One should inquire as to how many adults make up the household and who they are. Grandparents are frequently overindulgent. Sometimes they cause friction between parent and child by not backing up the parent's authority. Too many adults directing the child may confuse him and cause him to feel insecure.

When a NURSE cares for the child it is important to know something of her personality and the extent to which she has been granted authority over the child. In some instances she may show marked preference to an infant sibling at the expense of the older child. Under other circumstances, where a nurse has cared for one child for a long time, she may resent the new baby and the added work he makes for her.

The circumstances incident to the BIRTH of the child may be the starting point for problems. The mother should be asked about labor and delivery and her responses noted. The rejecting mother is more likely to complain of long labor, difficult delivery, tears, etc., while the affectionate mother will pass over these conditions with little discussion. Some fathers show resentment toward the child if the mother has been ill during her pregnancy or has had a difficult delivery. Is the child of the desired sex? Why was one sex desired rather than the other?

FEEDING. The duration of BREAST FEEDING and the emotional reaction accompanying it will give some idea of the mother's attitude toward the infant. Mothers who nurse their babies and enjoy the process are, on the whole, apt to be affectionate. Difficulties in weaning, in accepting the bottle, in taking food should be inquired into. What was the attitude of the parent to any feeding difficulties which occurred? Is the child fussy about food, a dawdler, insistent upon being fed? Any special problems should be discussed at greater length.

The SLEEPING routine should be investigated. Questions should include hours of sleep, restlessness, bed-time ritual etc. Important information may be obtained by asking where and with whom the child sleeps. Where older children of different sexes sleep together or where small children sleep

with adolescents, sex curiosity may be sharpened and sleep disturbances result.

Query as to **MOTOR DEVELOPMENT** should include time of sitting up, walking and talking. Is the child weak or frail, is there undue awkwardness, hyperactivity, or incoordination? Does he enjoy outdoor activity and does he take part in sports?

LANGUAGE DEVELOPMENT AND HANDEDNESS should be asked about. When did the child say sentences? Does he speak clearly? Is there lisping, stuttering or confused speech? Does he read well and does he take pleasure in it? Is his writing legible? Which hand does he use? If he is left-handed, has any attempt been made to convert him; if so, when and with what results? What is the parent's attitude toward his using his left hand? Which hand does he use for untaught acts, such as ball-throwing, cutting and hammering? Are there any special school difficulties referable to reading, writing or spelling? Is the child bilingual?

The **EMOTIONAL DEVELOPMENT** may be understood by asking about the child's behavior during infancy and his present personality. Was he a fussy, irritable crying baby or was he quiet, apathetic and easily satisfied? How did he react to new situations? Is he at present happy or irritable or moody? How does he respond under various conditions? Is he aggressive or submissive? Does he have temper-tantrums? Can he be counted on when visiting or is he always seeking attention? Much can be learned by asking the parent "How does this child behave?". Further questions will reveal what sort of behavior the parent desires.

UNDESIRABLE HABITS. The parent frequently asks help because the child has some habit which is considered undesirable. It is well to let the parent discuss this in his own way. Questions may be asked to bring out the attitude of the parent toward the habit as well as any attempts at correction and the child's response especially as to his desire to be corrected, his indifference or his resentment toward any interference. Is parent or child ashamed? Often it is necessary to ask specifically about certain undesirable habits especially nail-biting, thumb-sucking and bed-wetting as these

may be considered unimportant by the parent.

TRAINING AND DISCIPLINE. Much information can be obtained by asking about daily schedule, as to time of arising, dressing, feeding, going to school alone, outdoors play, bed time etc. Is the child able to do those things for himself which he should be able to do? Is he willing to do them? Is he responsible and self-reliant or does his mother baby him and protect him? What is the parental attitude when he refuses to feed himself or dress himself? Are the parents overanxious? Does the child behave himself reasonably well? If not, what disciplinary measures are used? What is the child's reaction? Are the parents consistent in their treatment of the child?

SCHOOL, PLAY, SOCIAL INTEREST. A great deal of information is gained by inquiring about the child's behavior outside the home. Is he popular with other children and is he a good mixer or do the parents direct his play and take his part? What is his progress in school and his relation to his school-mates and teacher? Are the parents satisfied? Are they looking for perfection? What kind of play does the child enjoy, sports, reading, radio, movies? Does he prefer to be alone?

Some query into the child's **RELIGIOUS AND SEX INTERESTS** may be important depending upon the age of the child. Is he secure in his belief? Has he been given adequate information? What is his attitude? This becomes increasingly important as the child approaches adolescence.—R.M.B. H.B.

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CASTRATION COMPLEX. This term implies a network of unconscious thoughts and strivings centering around the idea of having been deprived, or the expectation of being deprived, of the male genitals—mainly the penis. This complex is a general one, probably universal but the intensity of its effects varies.

The Castration Complex is a complicated process arising in the phallic

stage when, as a matter of normal development, there is intense conscious and unconscious interest in the sex organs. It is possible that deprivations during the earlier development periods of the child's life may also be regarded as castrations in that the child is deprived of what he looks upon as a treasured part of himself, namely, the loss of mother's breast at the end of the nursing period and loss of his feces during defecation.

In the Boy: During the phallic period the boy becomes sensitized to ideas of possible sexual injury. Actual threats may be absent, yet the child will construct this danger to himself out of slight hints that are never wanting. The incident and solution of the castration complex belong to normal development.

The anatomical sex differences in early childhood are important because of the tremendous psychic significance which the possession or lack of a penis has for both sexes during the phallic stage. The libidinal localization in, and consequent stimulation of, the genitals, which occurs at the stage of phallic primacy, becomes the driving force which expresses itself in childhood essentially as sexual curiosity. The basic impulses of the child are now largely occupied with the new center of sexual sensations, the penis. This preoccupation with the penis is the basis of the term "phallic primacy."

The activation of the Castration Complex is to be found to a large extent in the privations, injuring or punishment threats made by adults in connection with the boy's masturbatory practices. At first these threats are not taken seriously until as a result of his epistemophilic impulses his investigations lead to the discovery of his penis. He may make the discovery that this organ so rich in sensations is not a common possession of all people. This may occur through the very common experience of accidentally seeing the genitals of a girl playmate and the experience forces him to believe in the reality of the earlier threat. The boy's first reaction to the absence of a penis in the girl is to deny the fact. He may take comfort in imagining that her penis is small and will grow. Gradually he is forced to conclude that it had been there and had

at some time been taken away. The absence of the penis is thought to be the result of castration. This forces the boy to deal with the thought of a castration in relation to himself. This is especially so during the latter part of the Oedipus Complex when it is this fear of castration that forces the boy to give up his incestuous desires.

The Castration Complex leaves an indelible impression upon the child's personality. His fear of castration leads him to borrow strength from the father to stamp out the unpermissible incestuous urge. Through identification with the father, he sets up within himself the latter's prohibitions (super-ego). The castration fear is internalized and the boy submits to self-imposed restraints; thus preserving his narcissism both through the retention of the penis and the feeling of no longer submitting himself to external authority.

An unsolved castration complex affects the individual's later object-choice and permanently determines the boy's relation to women. It may be expressed as horror at the mutilated creature and triumphant contempt for her. The final conviction of women's lack of a penis may lead to depreciation of women, loathing of women and a disposition to homosexuality.

In the Girl: The origin of the Castration Complex in the girl lies in her discovery of her lack of a penis. The girl may react to her discovery either by the hope of some day obtaining a penis and so becoming a man, or by a refusal to accept the fact and a clinging to the conviction that she does possess a penis. The persistence of the denial results in the woman being compelled to behave as though she were a man.

The woman's acceptance of this wound to her narcissism causes her to develop a feeling of being inferior. Her discovery of the universality of the anatomical difference between the sexes cause her to relinquish the thought that her lack of a penis is the result of punishment. She now begins to feel contempt for women and clings obstinately to her desire to be like a man.

As a consequence, the girl loosens her relationship with mother as a love-object since she holds mother responsible for her lack of a penis. This serves as a reason for the girl giving

up her affectionate relationship to mother and prepares the way for her Oedipal development. It becomes a *fait accompli* with the changing of the wish for a penis into the desire for a child. With this object in view, she takes her father as her love-object. Her mother becomes the object of her jealousy. The girl has become a little woman.

The girl's penis envy causes her to look upon the clitoris as an inferior penis, and may cause an intense feeling against masturbation. While educational influences are active the real cause lies in the narcissistic injury which is bound up with penis envy. The girl feels she cannot compete with boys and therefore gives up all ideas of doing so. The realization of the anatomical distinction between the sexes forces her away from masculinity and masculine masturbation and thus leads to the development of femininity. If this repressive impulse does not succeed, the conflict may persist into adult life as a form of autoerotism.

At adolescence the appearance of the menstrual flow reanimates her castration fear. She may strive to hide what is happening because to her the bleeding is evidence that she has injured herself. She fears that her sin of masturbation has caused this injury. She now has definite evidence of the loss of the penis, i. e., her castration.—S.Z.O.

CHARACTEROLOGY. There is no generally accepted definition of this discipline because there is no agreement on the notion of character. The two terms 'personality' and 'character' are used promiscuously by some authors; others consider character as a special aspect of personality; others still make a sharp distinction. The latter view seems preferable because, at least, it guarantees precision and clarity of terms. It is submitted that personality indicates the sum total of all actual properties in an individual at a given time, whereas character is interpreted as the totality of all principles regulating action. Since all action aims at the realization of some value, one may say that character encompasses all evaluating attitudes or that it is identical with the subjective order of value. Personality develops or decays; character depends on the way values and their hierarchy are con-

ceived. The person is immutable; personality evolves by actualization; character can be changed by conversion (religious and otherwise), by mental disease giving to the mind a new outlook on reality, and one person may present successively or even alternately more than one character (in cases of so-called multiple personality which were better termed multiple character). The person can neither gain nor lose; personality may grow or dwindle; character may change its direction, that is, the prevailing goals. Although character usually remains the same throughout a person's life, the fact of alteration occurring is obvious and, therefore, sufficient to invalidate all ideas of "inborn" character or of a man necessarily behaving as he actually does. All this may be summarized by the formula, that 'a person behaves by means of his personality according to his character'.

Character, derived from a Greek word meaning notching, signifies originally more typical than individual features. In Aristotle's and Theophrastus' studies characters appear as determined by some predominant trait, mainly a virtue or a vice. Only in modern times, the name came to indicate something 'characteristic' of an individual person. The word 'person' has a similar history, but it reached its present signification much earlier, mainly under the influence of Christian speculation. Because of the different approach, studies on character like those of Theophrastus, La Bruyère, Castiglione, ought not to be comprised under the same heading with recent theoretical and empirical endeavors.

One may call Jul. Bahnsen a follower of Schopenhauer, the first who, in recent times, attempted a systematic presentation of ideas and facts pertaining to the study of character. He made use of the traditional division into four 'temperaments', which goes back to Hippocrates and Galen. However, he went beyond the old ideas by considering not only the prevailing mood, but traits like spontaneity, receptivity, impressionability, and others.

Bahnsen's work had no followers. Only in very recent times, chiefly under the influence of ideas stemming from psychiatry and the study of neurosis, characterology attracted greater atten-

tion. A survey by H. Prinzhorn, in 1931, lists more than 500 pertaining titles. A recent report on one single question (Bernreuter Inventory) lists 150 titles.

There is disagreement not only on the subject matter, but also on the approach to characterology. The differences of approach are determined by general philosophical and methodological considerations. There are two main procedures and viewpoints. One may be characterized as fundamentally elementaristic, the other envisions totality. The former is definitely preferred by American scholars who hold that it is the only 'scientific' approach; the other is found among German and French writers. Some have attempted a kind of compromise or synthesis. Of such enterprises G. W. Allport's studies, for example, combine the 'holistic' viewpoint of E. Spranger with measurement and testing of the basic attitudes.

Another division one might consider is the one according to the emphasis laid on bodily factors as set over against a strictly psychological viewpoint. However, this controversy refers more to personality, as defined above, than to character in the sense given to the term here.

The same may be said of the mooted question of heredity, or 'nature vs. nurture'. The mere fact that character may undergo radical changes or that one person may display, during his life, more than one character proves that inherited factors can play only the role of material determinants, not formal ones. The choice of values depends much more on previous experience and all kinds of environmental influences than on inherited dispositions. Some authors, indeed, hold the opposite view insofar as they credit 'instincts' with the capacity to determine conduct in the specific sense of preferences and rejections. Thus, acquisitiveness is said to rest on a definite instinct. The existence of such instincts in man or the influence they exercise is, however, much more questionable than is generally assumed. Recent researches in neurophysiology and neuropathology have made many of the assertions doubtful which, a short time ago, used to be taken for granted.

The elementaristic view considers conduct as the effect of many traits cooperating and assumes that a quanti-

tative study of single traits or groups of them furnishes the only legitimate approach. Especially by figuring out correlations the relative weight of the various traits in the formation of typical and individual characters is to be determined. This method has produced results which indubitably are important and valuable. The aim of such studies is often not so much theoretical as practical; guidance, aptitude, and similar viewpoints prevail.

Envisioned from the theoretical angle, these researches appear to be open to two objections. First, it is almost impossible to determine the nature of a single trait; the 'same' trait of conduct may spring from very different sources without this becoming visible in the testing situation. Furthermore, many of these traits are rather vague, difficult to define. Secondly, one may question the supposition that a trait remains the 'same' when entering into a combination with others.

The first of these difficulties becomes apparent when one considers a trait like persistence. Where is the line dividing persistence from stubbornness, obstinacy, and the like? But even if such a distinction could be made with some reliability, the question remains whether or not persistence is a homogeneous trait. If it is not, the conduct under discussion might result from very different arrangements of some still undiscovered, more elementary, factors.

It is possible that factor analysis will bring about some clarification. But this procedure demands quantification. Conduct can hardly be measured, even in the somewhat restricted sense as this term is used in psychology. One may indeed devise a set of questions the testee has to answer and evaluate the degree of the supposedly measured trait by the percentage of answers pointing at its presence. However cleverly constructed these questions be, the quantification cannot be but rough, even so much so that one can not speak of approximation. Approximation, in fact, demands that a way of measurement be found which in principle corresponds to the entity we want to measure. But whether or not this be the case we cannot ascertain in the testing of character traits.

Those tests or series of such known by the name of 'inventories' (e. g.

Bernreuter's Personality Inventory, Smith Human Behavior Inventory, Bell Adjustment, Clark-Thurstone Inventory, etc.) rest all on the elementaristic conception. Although the intention is to provide a strictly descriptive approach, the term adjustment itself connotes some kind of norm or evaluation.

The description of trait patterns or syndroms suffers from the same defects. As long as there is no absolute certainty concerning the single traits, such a pattern may be of a very different nature in spite of its phenomenal identity.

Many of these single traits allow for different theoretical interpretations. For instance: affective tolerance, that is, the capacity of maintaining mental equilibrium under the stress of emotion, depends primarily on the 'intensity' of the emotions and on the facility of their arousal under certain circumstances. But, supposing that this intensity of emotion may be gauged with some accuracy, we have to ask what the significance of such a behavior trait may be. It may rest on some inborn or acquired 'strength', but it may also be the result of a particular evaluation of one's own states and experiences.

This ambiguity of traits is rendered still more important because apparently identical forms of conduct may be determined by character, in the sense defined above, as well as by 'temperament'. This term too is frequently used as interchangeable with the other two (personality, character). It seems best, however, to limit the notion of temperament to certain formal aspects of conduct, like the prevailing mood, the slowness or fastness of action (referring either to starting or carrying out an action), irritability, and the like. One has, however, to realize that certain traits may originate from temperament, or character, or personality. This may be illustrated by laziness which may be the result of a 'phlegmatic' temperament, or an escapist attitude, thus pertaining to character, or of innate or acquired weakness rooted in personality.

These difficulties—to which more could be added—do not in the least diminish the practical and also theoretical importance and usefulness of the studies based on the elementaristic

view. How far this view allows for an adequate comprehension of character or personality in general and of an individual case in particular is another question, the answer to which depends on whether relations of an additive nature prevail in the whole of personality and character or whether the conception proves true of the whole being 'prior' to and, therefore, different from the parts.

This conception is back of those characterological systems which consider primarily the totality of conduct, although not all authors explicitly state their viewpoint. The lack of clarity concerning the fundamental notions becomes more disturbing with this group than with the elementaristic studies. The 'holistic' characterologies may be divided in a first group which places in the foreground the formal or functional aspect, and a second which considers the material aspect, the values which determine the various kinds of conduct. Strictly speaking, only the latter are concerned exclusively with character, whereas the others refer indiscriminately either to features pertaining to personality or to temperament, besides those of character.

This division is crossed by another according to a more genetic or a more dynamic view. Sometimes both co-exist, as it is the case with Freudian psychoanalysis which considers the original organization of instincts and their 'fate' on one hand, and the dynamic interplay of these instincts on the other. Notions like repression or censor or cathexis are definitely dynamic, while the idea of partial drives, of the Id, or the Unconscious, are of a more static nature and emphasize the viewpoint of individual history.

A further differentiation is brought about by the different evaluation of the somatic and the mental aspect. Those authors who believe that character is mainly or even wholly determined by bodily properties arrive at notions widely divergent from those based on the idea of a relative freedom of the mental capacities in regard to the bodily functions. The latter are considered as material which indeed becomes a co-determinant of character insofar as they limit the possibilities, but which also can be 'used', if one may say so, for very different ends.

The capacities which underlie manual skill may thus be used by an individual for becoming efficient in subtle mechanical work, or a perfect pick-pocket. If this sounds rather exaggerated, it nonetheless illustrates the idea.

Some of these 'holistic' systems adopt the very same approach 'from below' they sharply criticize in 'scientific' psychology. Although the authors of this kind refuse to consider the whole of person and character as formed by addition or combination out of simpler elements, they maintain that the 'lower' layers are not only the foundations but also the origin of everything higher. The lower strata, be they named the Id, or the instinct, or 'life', are considered as more than a mere substruction on which the rest of the whole edifice is founded, and as supplying the material out of which all higher phenomena of mind and conduct are fashioned.

In this regard several types of characterology may be comprised under one heading, however much they differ in other regards. Psychoanalysis (Freud), the body-build-character concept of Kretschmer, the ideas of Klages belong together insofar as they are mainly determined by the "view from below". Otherwise, their fundamental notions are diverse. Psychoanalysis considers instincts as the foundation of conduct and of all mental phenomena; conscious and intentional behavior is only a superstructure erected on the organic-instinctual basis and, moreover, built from the same material. Kretschmer indeed speaks of an 'affinity' existing between his types of character (which, however, are not purely such but comprise, because of the imprecision of concepts and terms, traits of personality and temperament); but it is obvious that he thinks in terms of causal relation between bodily function and properties on one hand and the characteristics of mentality and conduct on the other. The types devised by E. R. Jaensch and by G. Pfahler belong also in this group.

L. Klages aims at more than a study of character; he wants to give a complete philosophy of human nature. He must be listed here, because one of his fundamental notions is the opposition between soul (Seele) and spirit (Geist). 'Seele' is the principle

of life, it is vitality and closeness to tangible reality, to the image, to the primary instincts; whereas spirit comes somehow from without. Klages mentions Goethe, Nietzsche, Bachofen with approval; he is antagonistic to experimental psychology as well as to any kind of idealistic and spiritualistic philosophy. Human nature has to be understood not as primarily rational, but as imbedded in the context of nature.

Soul or life and spirit are opposed to each other antinomically and therefore they are not to be reconciled. Life itself, however, has a twofold tendency or polarity which does not disrupt the unity of being but is its very essence. The idea of polarity, common with the thinkers and writers of Romanticism, plays a role also in other characterologies.

Jung's psychological types are divided first by the polarity of introversion and extraversion and further subdivided by the functions which predominate in either of the two fundamental types (senses, reason, emotion, intuition). Normalcy implies an equilibrium or a harmony between the two opposite tendencies towards the inner life or self and the outer life or the world. Jung knows of another polarity, too, the one between masculine and feminine tendencies of which he believes that both are present in any individual ('animus' and 'anima'). Here as on several other points Jung's ideas develop in a kind of mythology.

Several such polarities are found with various writers, like receptivity and activity, self-expression and self-repression (N. Cantor), contemplation and action, masculinity and femininity (Terman-Miles), assertion and submission, etc.

The systems of characterology based on a more formal viewpoint, that is, considering the various functions or traits in their weight and interaction, cannot maintain their original intention. They are forced to take into consideration, besides the function itself, the objective counterpart on which this function turns. Most of the traits can be evaluated only by the concrete behavior in definite situations. It is, in fact, not enough when we know that an individual is, e. g., extroverted with prevalence of intellect because the ob-

jective regions are manifold and it makes a difference whether a person turns towards this or that objective field. Also, an individual can be sufficiently extroverted to become enthralled with impersonal objects and yet have insufficient social contact. The formal systems attain eventually the more or less general type, but they never bring us close to the individual.

It is true that individuality escapes necessarily all classification. There is, however, a greater closeness or a greater distance of approach to individuality. It seems that this distance is lessened if the material content of the functions is considered.

This is done in the division proposed by E. Spranger and adopted by G. W. Allport. Spranger conceives of character as determined by the 'central value' around which all other values are grouped. He knows of six fundamental values which, when predominating in an individual, give to his conduct and character a peculiar note. The values are: intellectual, aesthetic, utilitarian, religious, and those of power, love. No individual is utterly blind to any of these values; the differences of rank and combination determine a series of varieties within the six main types.

Both the formal and the material approach remain somewhat one-sided. Only a combination of both seems to promise a comprehensive view of character. The formal approach must be furthermore supplemented by an extensive use of experimental procedures allowing to study the basic factors of the various traits of conduct and character. If it should become feasible that factorial analysis be applied to a larger extent, the chances to reach an understanding of character would become definitely greater.

Seen from the practical viewpoint there is hardly any question of greater importance than the one of prediction. At how early an age can we discern those trends which probably will determine characterological development or furnish, if left unchanged, the foundation of the mature character? The same question may be raised in regard to types. The answer is difficult because we do not know yet enough about the overlaying of more or less lasting character traits by features dependent on developmental phases. It is generally

known that childhood and adolescence have their own characteristics, largely independent of the individual and determined by the developmental stage. Limitations of understanding, lack of experience, transient attitudes dependent on the particularities of the child's or adolescent's situation may veil more fundamental traits. With the adolescent, the continuous change of his outlook on reality and himself hinders the establishment of persistent evaluations and accordingly produces a picture of unstable and changing character. However, there is every reason to suppose that a healthy individual growing up under average conditions possesses all capacities enabling him to develop into a normal and socially well adjusted being.

All studies of character must be preceded by a thorough clarification of the fundamental notions, and also of the methodological principles. Among the latter there is one which apparently is adopted uncritically by most authors, although it is very much in need of careful examination. This is the application to normal character of viewpoints and hypotheses, derived from the study of abnormal individuals, be they mentally ill, in the strict sense of the term, or belonging to the class of neurotic, psychopathic personalities.

Clarity must be attained also in regard to notions like the one of 'social personality'. By this is understood either the set of attitudes and functions determining an individual's social conduct, or the properties resulting from social conditions and situations. It is important to recognize that functions or elementary traits do not exist independently of the objective circumstances and that any trait receives its particular significance in individual conduct.

Because character determines conduct in regard to the objective (primarily of course social) world and, in turn, is determined by the objective circumstances, it cannot be studied in isolation. Characterology not only is close to psychology on one hand and sociology on the other; it noticeably overlaps.

The necessity of considering the objective circumstances, in the present and in the past history of a person, becomes particularly evident in the study of characters which are abnormal not so much in the sense of psychology

or psychopathology, as in the sense of societal criteria, as this is the case with delinquents.

If characterology, in spite of the numerous and serious endeavors on the part of so many students, has not yet yielded thoroughly satisfactory results, the reason must be sought in the one-sidedness of approach. It is not a question of alternatives, as if one had to decide either for the elementaristic or the holistic approach. The truth is that all the various viewpoints have to be considered together. No analysis of character is complete if it does not take account of the previous history of the individual. No holistic description gives a true picture unless the relative weight of the various traits and their relations are defined (by factorial analysis and correlation). Inventories, however extensive, do not render a correct representation of the individual character, because they cannot tell us how the discovered traits and their 'hierarchy' work out in actual behavior.

—R.A.

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See: PERSONALITY, TYPES OF PERSONALITY.

THE CHILD AS PROPAGANDIST. Political attitudes depend not only upon the historical moment, national interests and party politics, but also on biological moments as sex, race and age. It should be the aim of every scientific investigation to arrive at an evaluation of and differentiation between biopsychological moments on the one hand and societal on the other. This differentiation, of course, is an abstract one because every individual development is brought about under the impact of the milieu as well as through the push of biological maturation.

Within the social psychological ontogenesis, the child impersonates roles

he observes in the adult world. They are acted through actions, symbols, badges, brassards. Such words as are uttered by the adults with particular emotion are used by children in their plays. This holds true for words imbued with political passion, too.

On the basis of such observations and prompted through the psycho-analytical teachings on the indelible imprint of first childhood impressions, politicians, propagandists and official pedagogues have set out to win the child to their symbols. The aim of political propaganda in the child is a double one. a. Attitudes shall be fixed for the time when the child shall be an adult. b. The parent and other adults shall be propagandized through the child in a way which we know from the ordinary advertising through the child.

While it is true that the child and the adolescent are susceptible to symbols, experience does not confirm the fascist belief in the indelible traces of childhood impressions. Thus H. H. Remers formulates: "If such (propagandized) attitudes are learned, the forgetting curve drops certainly no more rapidly than it does for measured achievements in conventional high school subjects." In other words, experimental studies seem to show that propaganda follows the general rules of learning and forgetting. As far as this goes, there is no black magic about it. But there is even more to it. Says Margaret Mead on the basis of her observations on Samoan children: "You cannot alter society by giving its children of school age behavior patterns to which the adult society gives no scope." It is in keeping with this that wherever sociological conditions that are unfavorable to fascism prevail, the adolescents are refractory to it in spite of a barrage fire of monopolistic propaganda. This seems to have been the case at the German universities in the years after Hitler came to power.

On the whole, as the effect of propaganda is overrated when applied to adults, so it is in the world of the child. This does not mean, however, that democracy should indulge in its usual complacency about propaganda. Propaganda should be used in school age, but at the same time one should take every precaution that the salute

to the flag, the songs, the symbolic gestures, should be kept lively and interesting. Prescribed attitudes must never become empty shells and embarrassing lip service. Otherwise, the negative feelings will throw their shadows on the values which should be propagandized. On the other hand, stereotype repetition in children must not be avoided to such an extent as in the adults. The problems that must be clarified through experimental investigations are the following: (a) To what degree do political attitudes acquired in childhood persist if the adult society give no scope? (Margaret Mead), (b) What is the proportion between intellectual and emotional attitudes in childhood? (c) What are saturation points for stereotypes in the different ages?—W.G.E.

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CHILD DELINQUENCY. It is estimated that in 1942 there were in the United States approximately 43 million boys and girls who are under the age of eighteen. Of this number about 5 per cent will find themselves in conflict with society, with the communities they live in—violating laws enacted for the protection of themselves, and society. If these estimates are correct—and they appear so to be—two million of our child population will be involved in juvenile misconduct or delinquency. Not all of these will come into the juvenile courts. The number that comes into juvenile courts, however, makes us apprehensive and is a shocking demonstration of the extent of juvenile delinquency.

Two hundred thousand youngsters are brought into the children's courts of the nation annually—some as a result of serious aggressive conduct, others for misdeeds of a minor nature. J. Edgar Hoover, Director of the Federal Bureau

of Investigation, recently said: "When one considers that more than 700,000 youths of 21 years or less are engaged in some type of law infraction, we feel that many of our youths are literally being chopped down by the effects of crime, warped and twisted into a lawless population."

Mr. Hoover's statement may be an exaggeration, since he views conditions from the angle of criminology and penology. Many of these 700,000 can be and are reclaimed. Many a child found to be delinquent has been salvaged. Children and adults are rehabilitated. With rehabilitation they are fitted to take their place in the community and enabled to contribute adequately to community life and develop within themselves the forces which are necessary to live a life adjusted to the existing community norms.

The Federal Bureau of Investigation of the United States reports that for the year 1940, 12 per cent of all murderers, 45 per cent of all burglars, 32 per cent of all thieves, 15 per cent of all arsonists, and 52 per cent of all automobile thieves apprehended were under the age of 21.

An analysis which is very alarming shows that the largest number of violators today are within the 19 year age range.

The inescapable conclusion from these figures is that antisocial conduct resulting in crime is primarily a youth problem. In many instances, today's criminal is yesterday's juvenile delinquent. If delinquency in a child is not checked, if aggressive conduct is unrestrained, if petty thieving is permitted to go unnoticed, the child becomes conditioned to conduct which in later life flares up into crime; and in adult life some juvenile delinquents embark upon crime as a life career.

Statistics are not absolute. At least, they are not sufficiently reliable to predicate upon them a concrete and absolute formula. Statistics indicate that 75 per cent of adult criminals have graduated into that state from juvenile delinquency (sic). That is too great a percentage, unless delinquents who were not known to the courts are included. To limit adult crime, processes must be devised to prevent juvenile delinquency; and, where juvenile delinquency appears, to cure those propensities.

Delinquency appraised as anti-social conduct or in the light of a violation of specific provisions of law, is due to a lack in the mental, moral and physical make-up of the human being. It is frequently the result of the psychologic state of mind of the being; and the psychologic state of mind is brought about by causes which are often beyond the control of the individual, namely, economic conditions, poverty, congested areas, broken families, alcoholic parents, incompatibility between parents or between parents and children, or the presence of emotionally unstable human beings in the family group. Environmental influences fashion and mold the psychologic state of mind of the individual.

The dictionary defines delinquent conduct as an omission or failure to perform a duty or obligation. The commission of an act detrimental to one's self and to others and to the community must also be included within the meaning of delinquent conduct. It must, however, be noted that the recognition of a duty by the individual presupposes knowledge of what one's duties are. The commission of an act contrary to the welfare of the community or one's self presupposes knowledge of what would hurt the community or oneself. A failure to perform a duty, in the absence of knowledge of what it is, is hardly delinquency chargeable to the person failing in the performance.

No human being is born into the world with a moral sense or a knowledge of morals or moral concepts. Whatever moral sense we are possessed of is the result of inculcation. Morals may be taught directly or indirectly. Our responsibility to ourselves as individuals and to those amongst whom we live, and the corresponding responsibility of others toward us, defines in a broad sense what we mean by morals.

Our moral and ethical principles, as we know them, have developed in the course of many generations as the result of conditions calling for responsible conduct by the individual. The environment in which a generation lives determines its morals. The education, the economic status, the culture, and the civilization obtaining, influence and fix moral concepts for a given period and in a given time. What we accept as morals, is what we are taught morals

are, by precept, by example, by spiritual family reactions, faith, and religious teaching. The child who accepts the ethical formula handed down to him and who adjusts to the norms of the people amongst whom he lives and the community in which he is being raised, is deemed to be living a normal life. His conduct, when it is not contrary to the conduct of the group of individuals with whom he lives, is not deemed delinquent.

No child is born into the world conditioned. Conditioning is the result of processes applied by adults in the development of the child's personality. Actually there is no application of any specific process. The child imbibes all that surrounds him. If conditions are wholesome and good, he may develop into a human being conditioned to live a good life. If, however, conditions are evil and unwholesome, he will develop a personality that will prevent his adjustment to normal life and so will engage in anti-social conduct, aggression, delinquency and ultimately crime. The personality which we develop flows from surrounding influences, conditioning and teaching, by precept and example, and because of many other factors. It is these factors which mold the character and delineate the characteristics of the individual.

Delinquency is conduct deviating from what is regarded by the community as normal. But society may accord to some the possibilities and opportunities for conformance to its moral concepts and may fail in providing the same possibilities and opportunities to others.

Juvenile delinquency, legalistically defined, is a violation of legislative enactments or a legal code. Delinquency, however, is not limited to violation of a legal code. Indeed, violation of legislative enactment may at times be less delinquent than an offense against the customs or traditions of the community. A law that does not reflect the common sense of the community or cannot be enforced dies of obsolescence; a violation of such law is not regarded in the community as delinquent conduct.

Sex offenses constitute a large proportion of delinquent conduct charged to girls. The law fixes the age of consent to sex relations by a girl. The age limit for such consent varies geographically and from the standpoint of

1287 of the population.

There can be only one of two conclusions drawn: (1) Where a community finds its neglected children and immediately takes measures to remove the cause of their neglect, safeguarding the children against adverse influences, providing for their needs, both physical and cultural, the ratio of delinquency is low; or (2) In other communities the courts place responsibility for the delinquency of children where it belongs, that is, on the parents, and adjudge the children neglected rather than delinquent. The number of delinquent children in such community is found to be lower than in those areas where the responsibility for the act of the child is placed upon the child itself, regardless of whether the child's acts were the result of neglect, and regardless of whether the delinquency of the child was traceable directly to neglect by parent, community or school.

These figures indicate that while juvenile delinquency may be the act of the individual, responsibility for the act should be placed where it belongs.

The criminal is the result of the delinquent child, unrehabilitated. The delinquent child is the product of the neglected child.

Juvenile delinquency is preventable except in instances where the human being is incapable of distinguishing between right and wrong, unable to appraise the quality of his act because of mental defectiveness or insanity. Anti-social conduct can be prevented. Asocial conduct is possible of elimination by supplying a sense of moral responsibility and consciousness of the need of cooperation within and with the group.

The factors that cause the breakdown of morals resulting in delinquency or crime are manifold. These factors change with changing conditions. Conduct at one time and in one clime may be regarded as delinquent while at another time and in another clime the same conduct may be considered normal.

Roscoe Pound said: "Continual changes in the circumstances of social life demand continual new adjustments to the pressure of other social interests."

The child, no less than the adult, responds to the impacts of life. Environment shapes and molds to a large

degree the character and characteristics that go to make up personality. The factors that go to make up environment are many. The concepts which the group accepts, the type of life it lives, the pleasure it enjoys, the things that make up the good life, poverty of thought and poverty of material needs—all of these are factors constituting environment.

"Delinquency," said Roscoe Pound, "presents a problem far too complex to be dealt with by any single method." The techniques which will prevent delinquency or cure the condition upon its appearance must be fitted to the individual according to his needs. The producing causes of delinquent conduct differ, and the techniques for rehabilitation must also necessarily differ.

Roscoe Pound said, "We must recognize that in the urban industrial society of today the household, the church and the neighborhood are no longer the effective agencies of social control which they were in the rural, agricultural society of our formative era." The impacts to the emotions of a child or adult in a highly industrialized society, complex in its nature, with untold distractions and influences, call for instrumentalities in addition to those which were adequate and effective in a period of a more simple mode of living, such as our forefathers enjoyed or such as the life that people in less industrialized communities live.

By and large, responsiveness of the human being to environment does not differ very much. Under given conditions, human beings will react in similar manner, despite the fact that we are individualized humans. Were it possible to bring up children under exactly similar conditions—and that is wholly impossible and undesirable—children would be alike. Children who are under continuous excitation to act savagely would act that way because the normal state of mind of the group that excites the savage instinct is savage.

Edward Haydon, Program Director of the Chicago Area Project, points out in a study of low income neighborhoods that change in population, racial or religious, does not affect the extent of delinquency among the children of such low income neighborhoods. The study disclosed that as a result of a change in economic conditions, as residents become more prosperous and moved into

better neighborhoods, the percentage of delinquency among those who had left the low income neighborhoods fell perceptibly.

Individualized approach to the problem of juvenile delinquency demonstrates that the underlying cause of delinquency is not always poverty. Indeed misconduct is symptomatic of conflicts within the child. These conflicts, emotional in character, are responsible for delinquent conduct. Of course, emotional disturbance often has its roots in social inadequacy and economic distress. The fact that a child feels insecure in the home or in the group, for whatever reason, is not to be overlooked as a positive factor of delinquency. Security gives emotional stability. Proper security makes for the right kind of stability. Insecurity makes people unstable. The lack of security will result in aggressiveness—aggressiveness to attract attention or to produce the feeling of belonging or being wanted.

A remedy, a way to prevent delinquency, is the end towards which psychologists and psychiatrists and social workers strive. A disease cannot be cured (and delinquency is a social disease) unless the underlying cause is discovered and eradicated. The causes of delinquency are maladjustment due to poverty, improper upbringing, a lack of or faulty education, failure of parents to realize that the child is imitative and will ape the conduct of the parents or that of the group in which it is being brought up, and a lack of inculcation of morals in the development of a moral sense and social responsibility. These and other factors are the root causes of delinquency in the normally healthy child. The sick child, the mentally weak, must be treated differently from the normal child. The causes of misconduct in the mentally deficient or abnormal child can only be treated medically, if at all.

How are we to attack the problem? 1. It would seem that one solution would be the preparation of parents for motherhood and fatherhood. The teaching of children, even from the first day of their life, requires training. That training we have not as yet provided for. We certainly have not given it to the parents of today.

2. There is no reason for poverty. It is not warranted. It is not necessary.

With the elimination of poverty, economic causes of delinquency will be eradicated.

3. Healthy surroundings for children—recreation centers, fine home conditions, homes that are beautiful and pleasant—do remove the desire of children to escape from their environment.

4. The reorganization of our school system so that teachers approach children with love and treat them as individuals, as personalities.

5. Ascertain the bent and aptitude of the child at the earliest possible period; fit the curriculum or education to the ability of the child rather than force the child to fit itself to the curriculum or to an occupation that it is incapable or unwilling to follow.

6. Education both of parent and community in the needs of children.—J.P.

CHILD LABOR. Only a few decades ago employment of minors was restrained merely by parental love and the pressure of public opinion. But since that time the number of children engaged in gainful occupations has been reduced from 2,000,000 (1910, 10-15 years of age) to 500,000 (1940, 14-15 years of age). This good achievement has been the result, first, of the Fair Labor Standard Act (1938) which has set definite minimum standards for child employment in interstate commerce. According to this Act, children 16 and 17 years of age are not allowed to do any work that is hazardous or harmful to their health. Children 14 and 15 years of age may not be employed in manufacture and mining or work during school hours. The second milestone in this progress was the White House Conference on Children in a Democracy (1940) which worked out even more up-to-date standards of child labor than were incorporated in the Fair Labor Standard Act; the main intention of the Conference was to overcome the limited application of the Act and to make its provisions applicable to all child labor.

Unfortunately, neither do the provisions of the Act apply to industries whose products cross no state lines nor has the inspiring influence of the White House conference overcome crass political opposition. State legislatures have not proved to be particularly co-

operative with regard to the basic minimum age requirements for child labor. The minimum age for such labor remains 16 years in fifteen states, 15 years in four states, and 14 years in twenty-eight states and the District of Columbia, one state has no minimum age whatever for child employment.

The inadequacy of federal and state laws with regard to agricultural communities has been well illustrated by the Children's Bureau study (1941) of conditions in Hidalgo County, Texas. It has brought out the startling but obviously not exceptional fact (based on a careful investigation of 998 families) that the great majority of children were there engaged during the preceding year in gainful agricultural work (cotton picking, harvesting of vegetables and fruit, etc.), namely, 11.8% of children 6 and 7 years old, 43.9%, 8 and 9 years old; 73.6%, 10 and 11 years old; 86.5%, 12 and 13 years old; and 94.9%, 14 and 15 years old.

Another discouraging fact is the recent relaxation of already existing regulations, as an effect of war conditions. This dangerous deviation from previous salutary trends has been well described by the Children's Bureau of the U. S. Department of Labor. "The great expansion in employment for war production and in the armed forces of the country has brought about significant increases in employment of young persons. Thousands of boys and girls of 16 and 17 years, and many 14 and 15 or even younger are leaving school for work—some in war industries, but more in trade and service establishments and in agriculture, from which the older workers have been withdrawn. Clear evidence of this large increase in the number of boys and girls under 18 years of age that are going to work is seen in reports of employment or age certification issued to minors entering employment and in figures for placements of young persons made by public employment offices of the Bureau of Employment Security in the Social Security Board."—R.B.W.

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CHILDREN'S CHARTERS. The development of the new science of child guidance led naturally to the formulation of concrete goals and practicable ideals. Suitable ideas were available for several generations. Valuable observations and extensive experience were fast accumulating. The need for an authoritative statement of such goals and ideals, coming preferably from the governmental circles, was widely felt among educators and public-spirited men and women. This rising trend finally culminated in the Hoover's White House Conference on Child Health and Protection (1930) which prepared a Children's Charter incorporating in its nineteen points the following recommendations, as the essential rights of every child, as given below in brief:

- (1) Spiritual and moral training.
- (2) Understanding and the guidance of his personality.
- (3) Home care and an adequate standard of living.
- (4) Medical, dental, and nutritional protection.
- (5) Wholesome physical and mental recreation.
- (6) A dwelling place safe, sanitary, wholesome, and aesthetic.
- (7) A well-equipped school.
- (8) Education preparing the child for successful parenthood and citizenship, and also for safety and protection against accidents.
- (9) School encouragement of voluntary youth organizations.
- (10) Equal privileges for the rural child and the city child.
- (11) Protection against labor, if he is a minor
- (12) Reduction of his handicap, if he happens to be blind, deaf, crippled, or otherwise handicapped.

With the beginning of the Second World War, it became necessary to supplement the above points with four special recommendations which took the form of A Children's Charter in Wartime (March, 1942), quoted below in part:

1. "Guard children from injury in danger zones." These danger zones line our coasts along the Atlantic, the Pacific, and the Gulf—especially where there

are military targets, industrial plants, business centers, oil tanks, or the like; also, closely built home areas which might be bombed in an effort to break the morale of defense production workers

2. "Protect children from neglect, exploitation, and undue strain in defense areas" Adequate health, education, and welfare services must be maintained for children and their parents in each of the thousand communities where war production or military camps are established. To accomplish this will require proper staffing with doctors, health officers, nurses, social workers, teachers, recreation leaders, and librarians. Child-guidance clinics should be provided wherever possible to help parents and children overcome insecurity associated with dislocations in family life. School opportunities must be expanded to meet the new demands of expanding populations. This should include nursery schools for young children.

3. "Strengthen the home life of children whose parents are mobilized for war or war production." To children in wartime the home is vital as a center of security and hope and love. To our fighting men the safety and protection of their families is the center of what they fight for. To men on the production front the welfare of their families and homes is basic to morale. As plans develop for the participation of women in war industry, it must be recognized that the care of young children is the first responsibility of mothers. For children whose mothers are employed or planning to enter employment, it is the responsibility of the community, through adequate planning and support, to see that parents have assistance.

4. "Conserve, equip, and free children of every race and creed to take their part in democracy." Every city, county, and State should review the needs of its children and youth in the light of these principles through a children's wartime commission or an existing organization designated to serve in this capacity, and should devise means to meet evident needs through the cooperative action of Federal, State, and local governments and private agencies. Every effort should be made to keep the public informed of activities and needs in all

phases of service for children. There should be no State lines nor barriers of race or creed impeding what we do for children in our war effort. They may not live in danger zones or defense areas; they will still be subject to the strains of these times. They should not be forgotten Americans. Their future is our future.

CHRONAXY. Chronaxy is a term first used by Louis Lapicque (1909) to indicate the degrees of excitability of a tissue in terms of time instead of intensity, as had been the custom of Du Bois-Reymond and his followers for many decades before. More specifically, chronaxy designates the time required to excite a tissue electrically when a certain intensity of stimulation, namely, double the threshold intensity, is employed. It is measured by an instrument called a chronaxiometre, which applies the principle of the condensor discharge.

When two different tissues have equal chronaxies, they are said to be isochronous, or the functional relation existing between them is called isochronism. The corresponding terms designating unequal chronaxies are heterochronous and heterochronism, respectively. In the adult there tends to be a state of isochronism existing between each skeletal muscle and its motor nerve. In newborn infants, however, nerve and muscle are markedly heterochronous and do not become isochronous until about the fifteenth month, or about the age at which the child begins to walk. Chronaxial values of both muscle and nerve, which are relatively high in infancy, tend to decrease, indicating an increase in the excitability of these tissues as the child grows older. At adolescence they are at a point intermediate between those of the infant and those of the adult.

The ratio of the chronaxy of a flexor muscle to that of its antagonistic extensor in the normal adult is about 1 : 2. The plantar reflex in the adult is flexion, since the flexor has the smaller chronaxy. However, in the infant as well as in the adult with pyramidal lesion, this ratio may be somewhat reversed, giving extension of the toes, or the Babinski reflex. In some diseases of children which affect

the muscle of the limbs, as in rickets, for example, chronaxies of the muscles so affected may be increased many times their normal values.

A chronaxic interpretation of curarization is that the drug (curare, veratrin) modifies the chronaxy of the muscle, so that it is no longer isochronous with its motor nerve. Functional relationship between them is restored if another drug (adrenalin, strychnine), which affects the chronaxy of the nerve in the same direction, is applied.

The chronaxy of a nerve or a muscle is determined not only by its own substance, giving what is called constitutional chronaxy, but also by the influence of nerves, particularly, nerve centers. When a nerve is severed from the spinal cord, its chronaxy is modified. The chronaxy determined when the nerve is under the dominance of its center is called subordinate chronaxy.

Chronaxy of a cortical area, the stimulation of which produces contraction in some peripheral muscle, is variable. However, there is one sharply localized point which has the smallest chronaxy. It is called the optimal motor point and should be used primarily in cortical localization studies. When the ablation technique is used, stimulation of the points within a given area succeeding operation should be undertaken only after the cortical areas in general have recovered from their states of chronaxic disequilibrium resulting from operative shock.

In the process of learning, it appears that physiologically integration takes place as a result of chronaxic switching. Acts which are as yet unlearned require functioning of neuro-muscular units which are heterochronous. Through practice, these units are brought into an isochronic relationship. According to experimental data, the conditioned reflex results from setting up progressively a state of isochronism between cortical, subcortical and peripheral units.

Excitability of some of the sensory systems has also been studied by the chronaxic method. Evidence indicates that free nerve endings of the epidermis have large chronaxies. Pacinian corpuscles have small chronaxies, and the Meissner corpuscles have intermediate chronaxies. Auditory chronaxies tend

to vary inversely with vibratory frequency. Each of the semicircular canals has its own distinctive chronaxy, the horizontal canal having the smallest and the sagittal vertical the largest chronaxy. There seems to be a relationship between emotionality and chronaxy of the vestibular nerve. Individuals whose vestibular chronaxy is very small are extremely emotional, while those whose vestibular chronaxy is very large are extremely calm.

Chronaxies of the autonomic nervous system are much larger than those of the central nervous system. In both the sensory and the motor system, the autonomic system enters in to complicate the chronaxic values.

Many factors, it has been shown experimentally, affect chronaxy and chronaxic relationships. Some of them are exogenous drugs, endogenous secretions, temperature changes, ligation, compression, work, fatigue, sleep, size of nerve, speed of nerve impulse, age, sex, species, physical injury, disease, conditioning (q. v.), practice, and posturing.—M.O.W.

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CLASSROOM GUIDANCE. Schoolrooms are often divided into spheres of influence. In things academic, the teachers usually wield the balance of power, but in social affairs, the trend of events is often determined by the pupils. This division is unfortunate, for it deprives the children of the wisdom, experience and guidance which they have a right to expect from adults in this sphere as well as others.

The social training which children give each other tends to accentuate their personality deviations, rather than to remove them. The child who withdraws from the group is ignored and allowed to continue his behavior. The child who is aggressive meets resistance which strengthens his tendency to fight. The leader and the follower seldom have their roles reversed by their fellows, so that much practice makes for increased dominance in the one and submissiveness in the other. It is rare that a child who finds himself disliked and shunned by his fellows will discover why, and adapt his behavior accordingly. It is in such cases that teachers find opportunity to exercise wholesome guidance. Unfortunately these opportunities are seldom seized, although the necessity for satisfying social companionship as a means of wholesome personality development has been emphasized too often to need repetition here.

One reason for the reluctance of teachers to enter this field of guidance is that they have no adequate technique for determining the social relationships in a class, and particularly none for identifying isolated or rejected children. Moreno (8) reports that teachers' guesses as to the identity of the two boys and girls most frequently sought after by their fellows agreed only 48 per cent with the ratings of the pupils; and in choosing the least popular two, they agreed only 38 per cent with the children. Cowell (2) reports correlations of only + .37 to + .58 between teachers' and pupils' ratings on the social acceptability of high school pupils to their comrades. The follow-

ing suggestions for studying the social structure of a classroom will supply teachers with means of seeing the pupils as they see each other.

The first technique is adapted from Moreno (8). The object is to determine which are the close friendships in the group, and then to plot them so as to show their inter-relationships. The data may be obtained in different ways, e.g., asking the children to make a list of their very best friends, and trying to keep the number submitted by each child to a small number, preferably not more than three or four; or by asking the children to write down the name of the child they would most like to study with, go to the movies with, and/or take home to dinner. After the lists have been obtained, they may be plotted with arrows indicating the direction of preference. Double lines indicate mutual choices. Initials may be put in the circles to identify the children.

The clusters of individuals will fall into many patterns, sometimes centering around some particularly popular child as a nucleus, sometimes forming along an axis, and at other times indicating no particular organization. The number of children in each group will vary considerably. There will be occasional links between groups, so that completely isolated groups will be infrequent, although most of them will be fairly well outlined. In almost every classroom there will appear individuals who have mentioned others as their best friends, but who have not been mentioned by anyone else.

It is these isolated individuals who particularly need study and attention from the teacher. In some instances listening and watching, plus some discreet questioning, may reveal the cause of the isolation. Sometimes the rejected child is of a different maturity level. Sometimes his clothes are different. To come from the wrong side of the tracks is serious among adolescents. To be a sissy, an apple-polisher, a tomboy among little ladies, a bench warmer among athletes, a shrinking wall flower among competitive fifteen years old girls, unwashed and ill-smelling among the fastidious, unable to dance when dancing is essential, deficient in the social graces of the time and place, a bully, an attention getter, a braggart,

and so *ad infinitum*, may be cause for ostracism. Many of these sources of difficulty can be summarized under the heading of "being different"

To an adult the difference between an isolated child and the others may seem to be in favor of the former. But this merely indicates a failure to understand the peer culture of another maturity level. An indication of the traits admired by children in different age and culture groups can be obtained by administering a "Guess Who" test which asks children to identify those who are most like a given description, e g., "Who is it who enjoys a good fight and has them often? Who is it who is always neat and well dressed?" By identifying the children who are frequently chosen as popular with the traits ascribed to them on the "Guess Who" test, it is possible to determine the traits which make for popularity; and conversely to discover those which produce unpopularity. Stoke (11) has attempted to arrange a version of this test for the use of classroom teachers in studying their pupils.

Having identified the cause of a child's isolation, the teacher then should study the possibility of removing or reducing them. When differences exist between children, and they cannot be removed, it is sometimes possible to lessen the gaps between them, or to create tolerance for the difference. If the difference is more artificial than real, increased acquaintance may be helpful. Sometimes social skills need to be taught. Occasionally a new and better form of compensation for a deficiency may be worked out with a child. To teach the shy child some skill which the others do not have, may make him be sought and admired instead of ignored. Children of different maturity levels may need to be shifted to groups of their own peers. Rearranging seating plans, appointments on committees, special tasks, and other devices may be used to give the isolated child greater opportunity for the favorable attention of his fellows. Differences of race and social status may prove hard obstacles to overcome, but even if these barriers cannot be obliterated, they may often be lowered. In any case tact and discretion will have to be used, for friendship cannot be produced by force and commands.—S.M.S.

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CLASSROOM TEACHING (with respect to handicapped children). The problem of school guidance and counseling may be clarified by the following seven re-

marks concerning deviating children in general and mentally handicapped children in particular.

(1) Guidance of the young is as old as the family, the tribe, the church, and the school. It did not originate in 1908 when the first organized vocation bureau was established in Boston by Frank Parsons and Meyer Bloomfield. All child rearing and all education, whether skilled or bungling, represent attempts by adults to aid children to grow and develop into healthy, self-supporting adults, to become adjusted to the social order, and to achieve personal status and satisfaction.

(2) The highest function of both the home and the school is to provide intelligent guidance in all phases of the child's life—his physical development, social relations, civic duties, personal behavior, education, vocational planning, and recreational and avocational pursuits.

(3) The primary function of the teacher is to be a wise counselor, a stimulator, and a friend of her pupils, rather than an imparter of knowledge or a drillmaster. The conclusion is accepted almost axiomatically nowadays as a part of our American way of thinking, that the teacher's function is to provide a classroom climate and learning situations that will insure healthy child growth and development, stimulate initiative and spontaneity, develop resourcefulness, reveal and develop latent capacities, direct the child's learning activities into fruitful channels, prevent the development of crippling personality maladjustments, and overcome scholastic and social handicaps.

(4) The teacher cannot efficiently discharge her guidance responsibilities without an adequate understanding of each guidee as a total organism: his general capacity, special abilities or disabilities, penchants, aspirations, attitudes, vocational aptitudes, developing needs, physical condition, temperamental characteristics, emotional or intellectual conflicts, hampering personality traits, the meaning of the more subtle motivations and defense or escape mechanisms that may be used to solve problems, and the like. The guidance worker deals with a highly complicated organism.

Our clinic files have often revealed

that counseling not based on comprehensive individual diagnoses may be worse than no guidance at all, a species of misguidance akin to medical quackery that reminds one of Marie Dressler's aphorism: "no vice is so bad as advice."

(5) Skilled child or youth guidance is a more difficult job than merely teaching the three R's, and teachers cannot be expected to function on a high level in this province until they have secured the necessary technical preparation. This should include, in addition to the usual courses in psychology, educational psychology, child study, and tests and measurements, also remedial and diagnostic teaching, special education, mental hygiene, clinical psychology, the study of individual differences and of personality development and maladjustments, a study of the problems of counseling and placement, and a knowledge of occupations, job requirements, and job possibilities. This may seem like a large contract, but it ought to be possible to include most of these requirements in the four-year curricula by eliminating some questionable courses that contribute nothing toward a better understanding of the child. Of course, the results of standardized tests of all kinds, especially clinical tests, should be made available to the counselor, but test scores must always be judiciously interpreted in the light of all the circumstances that affect them. Existing tests are not instruments of mathematical precision that afford foolproof guidance indicators. But all this aside, within the next quarter century or so the conclusion will probably be accepted that the first job of every teacher, in order to teach and counsel effectively, is to diagnose her pupils, just as the first job of the physician, in order to treat diseases successfully, is to diagnose the condition of his patients. The classroom teacher through adequate training should be competent to diagnose the ordinary scholastic and adjustment problems of her pupils, just as the family physician must be able to diagnose and treat the common ailments of his patients. The more complicated cases of educational and personality difficulties, of which there will always be a sizable residuum, should be left to the well trained experts, the clinical

psychologists, and the psychiatrists. The classroom teacher will have to play the role of the family physician so far as concerns the minor scholastic disabilities and personality disturbances. But she will be more or less of a bungling amateur in guidance work until she secures through specialized training the necessary insight and technical skill.

(6) The teacher's guidance function is important for the efficient development and adjustment of both normal and handicapped children. Our special task, however, is to emphasize the need of skilled guidance for those who deviate from normality, especially those who are handicapped. That statement may raise at once the question of whom to include in the category of the handicapped or the deviating. We now know that Aristotle's dictum is not far wrong: "no excellent soul is exempt from a mixture of madness." Few normal persons exist who are not subject to some form of minor mental maladjustment. It is necessary to emphasize, therefore, that we are here concerned only with the children who are more seriously handicapped.

(7) Finally, sound vocational guidance presupposes sound educational guidance. Efficient vocational guidance requires an earlier program of skilled educational guidance. Educational and vocational guidance must go hand in hand, if maximum results are to accrue from programs of vocational counseling and placement.

What are the requisites for worthwhile guidance for handicapped children?

Needless to say, the problems of guidance will differ more or less for different groups of handicapped children, such as the mentally deficient, the blind, the deaf, the crippled and the like. But the main objectives for the large majority of the handicapped are probably quite similar, namely, so to develop or educate them that they will become:

(a) Maximally self-supporting — i. e., vocationally competent;

(b) Socially conforming, cooperative, and efficient, i. e., social assets;

(c) Free from the hampering habits, attitudes, or personality maladjustments which may have been produced, directly or indirectly, by their handicaps and

which may constitute a bar to their successful socio-economic adjustment;

(d) Satisfied, wholesome, and well-integrated personalities;

(e) Duly appreciative of the obligation they owe to the community for the costly, specialized form of education and training with which they have been provided in our free, democratic system of education.

What measures should be pursued to realize the broad goals mentioned above? Only three specific recommendations can here be emphasized.

The first requirement is, as already mentioned, properly to diagnose our cases. The initial step is to strive to comprehend the needs, motivations, general capacity level, specific abilities, and specific types of defect or handicap presented by each child, his vocational aptitudes and possibilities, and the mental mechanisms he utilizes to solve the problems created by his handicaps or difficulties.

It is very important for the teacher or counselor to understand that the mental mechanisms and the behavior patterns of handicapped children (as indeed of normal children too) are often misleading symptoms. They are not what they appear to be on the surface. Overt responses often do not give reliable clues to inner problems. Often they represent some form of defense or escape mechanism that the child adopts, often unconsciously, to circumvent difficult situations, to compensate for his inadequacies, or to resolve unrecognized or poorly recognized mental conflicts. Many maladjustments or behavior disorders of handicapped children are merely signposts or surface indicators of inner tangles or of concealed conflicts. Unless the teacher understands the motivations and mental mechanisms of abnormal behavior patterns and makes an effort to unravel the real basis for any particular form of malbehavior, her treatment will tend to be as dilettantish and ineffective as the remedial techniques of the physician who merely treats symptoms instead of removing causes.

The special-class teacher ordinarily occupies a very fortunate position in two respects. First, she usually receives the results of a thorough clinical examination accompanied by appropriate recommendations before the child

is transferred to her class. The reports usually include the results of individual intelligence and achievement tests, sometimes the results of various performance tests, personality tests, special aptitude and vocational tests, vocational interest inventories and employability ratings, occasionally psychiatric reports, and often the results of physical examinations and personal and family history investigations. Second, she often retains the child in her class for many years, and thus is afforded abundant opportunities for observing and studying him. On the other hand, the teacher in the lower grades in city schools ordinarily retains the child for only one year or one semester. In the junior and senior high schools the child often contacts with six or eight teachers for only one period a day or less during a single semester. On the basis of all this information and the results of the varied program of exploratory work she has provided, the special-class teacher ought to be in a position to offer very valuable occupational advice.

If our first job is adequate diagnosis of each handicapped child, our second task is to provide as early as possible skilled educational direction and learning stimulation—rich programs of diversified industrial arts, vocational training, and related cultural and literary instruction adjusted to the requirements of each group of handicapped children, personality adjustment, and adequate recreational outlets.

Four observations are apropos regarding the importance of a comprehensive educational program.

(1) Properly-treated, many handicaps, whether physical, mental, educational, or social, can be overcome, mitigated, circumvented, or compensated for, and can sometimes be turned into positive assets.

(2) On the other hand, unwisely treated, handicaps sometimes become definite bars to progress, constituting serious threats to the child's feelings of security, producing feelings of frustration, and often leading to outright failure.

(3) A rich program of exploratory activities, especially craft activities, is perhaps the best means available for discovering the child's vocational interests and capabilities. The method of trial on the job affords, it seems,

a more dependable technique in vocational guidance with the handicapped than the available standardized tests in the various fields of measurement, interest inventories, occupational analyses, or vocational rating scales. Few measuring instruments reveal the specific intellectual, motor, personality, or other traits needed for success in specific occupations. The tests of general intelligence or general motor ability or even many so-called aptitude tests are not highly prognostic of success in specialized occupational areas. These tests do possess some value for vocational guidance (and especially for educational guidance), but slavish reliance should not be placed upon them in their present stage of development. We need to check the reliability and validity of test results with actual performance on the job. A dominant factor, not measured by the test, such as a resolute determination to succeed, may in the workaday world, which is chiefly concerned with whether the individual can perform his assigned task satisfactorily, outweigh the cumulative effects of negative test findings. After all, we have no comprehensive tests of all-around vocational competency other than the general ability tests. Each of the existing tests of specific aptitude or ability explores only limited aspects of one occupation. Few of these tests possess any distinctive value in work with the handicapped, especially the mentally retarded. The range of many of these tests as well as of the existing interest questionnaires—and too much importance has been attached to them—is largely restricted to the skilled trades and professions. It is difficult to avoid the conclusion that in spite of the great productivity in the field of occupational measurement, many gaps still exist in our knowledge of vocational aptitudes and the means of diagnosing them. We do not know very much about the combination of abilities, interests, and personality traits required for success in the thousands of different occupations listed by the U. S. Census Bureau as open to the handicapped. We have not as yet determined accurately all the personal or occupational characteristics needed by a good steel-worker, garage mechanic, carpenter's helper, plasterer, sales-clerk, policeman, teach-

er, or lawyer. Therefore, for the present, and probably for some time to come, our chief reliance in occupational prediction with the mentally handicapped will have to be a rich assortment of exploratory handwork.

(4) A diversified program of manual mental activities is also justified by the fact that most handicapped children, like most normal children perhaps, do not possess highly specialized abilities; that is, they are capable of achieving success in more than one occupation, often in many occupations. One of the agreeable surprises in making a follow-up investigation in St. Louis many years ago of about 1100 mentally deficient and retarded children discharged from the special classes for whom data could be obtained was the discovery of the great variety of occupational pursuits they were successfully following, amounting to about 40 or more different kinds of jobs for the boys and 13 or more for the girls. The same fact is shown more impressively by the later and more complete study conducted by the California State Emergency Relief Administration from August, 1934, to March, 1935, of 3925 physically disabled persons between the ages of 15 and 55 employed in industry in the typical sections of 19 cities in California. The types of handicapped workers studied included the orthopedically crippled, the cardiac, and hearing and visual defectives (exclusive of the totally blind, however). At the time of the investigation these handicapped workers were employed in 290 different occupations. Ten years before this, in 1925, a nationwide survey by the Federal government recorded 623 jobs at which physically disabled persons were employed. These findings for the mentally and physically handicapped suggest the futility of attempting to provide training in our special classes for all the occupations in which they can win success and, equally importantly, the grave danger of limiting the training to a few skilled, semi-skilled, or unskilled jobs (as has been advocated) at the expense of more diversified types of handicraft training. There is no objection to providing as much trade or semi-trade training as possible or desirable for the older children, but this should be in addition to and subsequent to the generalized

training. The major part of this training could probably be given most effectively on the job, allowing the child during his last year in school to spend half time in school and half time in industry.

To study the child on the job is perhaps the most effective way to discover his particular penchants and capabilities, as well as his special personality and occupational shortcomings. The job reports should give very definite information on possible handicapping character traits that the teacher, thus forewarned, should definitely strive to correct.

The third basic phase of our guidance program is to provide efficient placement service for the handicapped pupils leaving our special classes. In this field of service we are confronted with two major difficulties. First, most public schools in this country afford no placement service by job counselors, careers masters, or placement officers, in sharp contrast with the situation that obtains (or did obtain before the World War) in many European countries, where special organizations provide follow-up and placement service for ex-public school special-class children. In the United States, a few city school systems, such as those in Cleveland, Boston, New York, and Detroit, have employed follow-up workers for this purpose. In Philadelphia the White-Williams Foundation renders placement service. Here and there special-class teachers or social service workers render a certain amount of volunteer follow-up service. The Federally supported vocational rehabilitation service has, of course, rendered notable contributions along this line for physically handicapped persons of employable age. But, by and large, our contributions in this field have been decidedly inferior to the European pattern (especially during pre-war days). Our tradition has been to leave handicapped children to shift for themselves after they leave the special classes. There is great need for improvement here in our administrative technique. Thousands of mentally handicapped children who now are doomed to failure would undoubtedly succeed in becoming economic and social assets to society were they given a little aid by understanding follow-up workers in finding jobs and some friendly supervision

and counsel after placement.

The California follow-up investigation of the physically handicapped and other similar investigations supply incontrovertible evidence of the ability of properly trained handicapped children to succeed in the modern social and occupational world. Only 15.8% of the physically disabled in California were on relief during this period of serious economic dislocation. Significantly, the ratio of unemployed among the physically handicapped was actually slightly smaller than for the entire population. Moreover, of the unemployed handicapped 54.8% were over 50 years of age. Again 86.1% of the disabled employees earned standard pay for the work performed, and 5.3% more than the standard pay scale. Thus 91.4% received a rate of compensation equal to or above the standard rate. Ninety-three and two tenths per cent were reported to be successful on the job, while 75.2% enjoyed opportunity for advancement equal to the non-handicapped workers. A follow-up study of mentally handicapped children from the Locust Point area in Baltimore was conducted 17 years after they had been examined by the Phipps Psychiatric Clinic of Johns Hopkins University. The clinic reports had painted a very dark picture of the future of the 166 whom they had recommended for special training. At that time they reported that 22 of the most deficient had "no prospect of becoming self-supporting adults." They were predestined, according to the report, for vagrancy, alcoholism, and prostitution. But 17 years later, on the basis of the ascertainable records of 122 of the 166, they found that 8 of the 22 most deficient men were self-supporting, 4 women had married economically adequate husbands, while only 5 persons were being helped by their families or by community organizations, in spite of the fact that the investigation was made in 1930-1931, that is, during the economic depression. Only three of the girls had had illegitimate children, of whom two had subsequently married. Of the 122, 95 or three fourths were found to be financially independent. They were supporting themselves during this depression period, although the clinic had prophesized that many of them would "drift along at the lowest

social level." In point of fact, 92 had never been identified with any social agency and only 30 had at one time or another been so identified. Seventeen of the men and 20 of the women owned, or were paying for, their homes. Fifteen other men and four other women had bank savings. Hence, the record was not as black as it had been portrayed by the psychiatrists 17 years earlier.

In the St. Louis investigation conducted during the war period we found that some of the "graduates" of the special classes were actually drawing higher compensation than their former teachers were receiving, while only 3.3% of the pupils enrolled in these classes during a twelve and a half year period had been committed to an institution because of conduct disorders. This ratio, however, should be regarded as a minimal figure because no information could be obtained for 436 youths. Nevertheless, during a six-year period in which the reasons for the withdrawal of pupils from the schools were accurately reported to the writer's department, "only four per cent (of 566 withdrawals) were withdrawn because they were committed to an institution on account of misconduct. Of the 186 children examined by the representatives of the National Committee for Mental Hygiene in the St. Louis industrial school for delinquent boys, only four had been registered in the St. Louis special schools." All the others came from the regular grades. The number judged by the special-class teachers "to be in need of institutional restraint because of criminalistic or delinquent tendencies amounted to not quite three per cent." It should be emphasized that only a limited amount of volunteer aftercare had been provided in St. Louis at the time of the investigation. With proper follow-up work the record might have been even better. In California, "out of more than 800 pupils who have gone through the atypical classes of the San Francisco's school department, only four have appeared in the Juvenile Court." "In Wilmington, Delaware, in the school year 1935-36 only 3.7% of the enrollees in the special and opportunity classes for the mentally deficient and retarded were truant one half day or more, eight boys and one girl." In the St.

Louis investigation only 45% of 787 pupils enrolled in the special classes had played hookey at any time during a three year period, and "five boys were responsible for 71% of the total number of days of truancy." "In the Chicago Montefiore day school for delinquent boys, the average attendance from 1929 to 1937 was 90.1% as compared with 55% for the same boys in the graded schools for the year preceding their admission to the Montefiore. From 1926 to 1929, the year of the establishment of the school, 400 boys annually were brought to the juvenile court on parental petitions. Since 1929 the number has averaged only 107 a year." When you prevent truancy you make a big dent in the solution of the problem of juvenile delinquency.

These and other investigations show that properly adapted instruction in special schools or classes with efficient follow-up service will render the large majority of handicapped children law-conforming, socially competent, and financially independent.

The second difficulty with which we have to contend is irrational prejudice against the employment of the handicapped. Some employers feel they are greater accident risks in the factories, that they do inferior work, and have less productive capacity than the normal workers, and so they refuse to employ them.

There is perhaps less opposition on this score now than formerly, although some of the prejudice was encountered in the comparatively recent California investigation. There is, forsooth, little justification for this prejudice, as evidenced by the employment records of handicapped workers, as already shown. Indeed a handicap frequently is a "blessing in disguise." It often serves as a powerful incentive to overcome the defect or to develop compensatory substitute competencies. The resolution to vanquish a shortcoming may develop qualities of determination, enterprise, and resourcefulness that will carry the individual to greater heights of achievement than he ever would have reached without the handicap. The literature is replete with illustrative cases. The short-sighted, physically delicate Theodore Roosevelt after vigorously roughing it in the "wild and woolly" mountains and plains of the west be-

came the intrepid Rough Rider of the Spanish American War and the aggressive, courageous President with the "big stick." Aggressiveness is in fact often a consequence of frustration. The attitude of unflinching determination in the face of bitter frustration has enabled many persons to triumph over their shortcomings and failures. Handicaps, we repeat, are often blessings in disguise.—J.E.W.W.

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COLOR AESTHETICS. Color, of vital import in primitive life, the artist's favorite medium throughout the ages for the transfer of mood and emotion, plays an ever widening role in civilized life with the development of new dyes and pigments. Training in identification and description of color, and appreciation of its uses in art and decoration, should be a matter of course from early childhood (even for the color deviate). Formalized instruction and set symbolism should, however, be avoided; and the mixture and

use of paints is a technique in itself, confusing to the beginner.

Ability to name colors correctly develops slowly in the average child, as Darwin, Preyer and others early noted. Binet set the recognition of the four cardinal colors—blue, green, yellow and red—in the seventh year. Using the 'grasp and reward' and similar methods borrowed from animal psychology, however, ability to discriminate major differences may be demonstrated as early as the first year. Differences in verbal usage and in the home training, above all the indeterminate boundaries of the regions of the color continuum over which each color name holds sway, red, e. g., doing duty for both scarlets and crimsons, while green includes both blue and yellow greens, jades and olives, retards the fixing of verbal associations.

Studies of personal preferences in colors and color combinations, relative to age, sex, race, mental development and social status, though they may uncover general developmental trends from warmer to cooler colors, from saturated to pastel shades, have little bearing on esthetics proper. Judgment of pleasantness or unpleasantness in an abstract or generalized situation, is usually forced, casual and meaningless, a function of fashion, or of purely individual experiences and contacts. Use of color in all art except the purely decorative, on the other hand, is expressive, and the ugly or unpleasant colors, the clashing and gaudy combinations, no less than the harmonious blends, may have their place and contribute to the total esthetic effect desired, *vide* the use of weird greens and yellows in an El Greco crucifixion, the gay jangle of warm tones in a Degas ballet.

The almost universal acceptance of complementaries in combination is apparently a less subjective and individual matter. It may indeed have a special psychological basis paralleling the preference for consonances in music. Contrast halos and after-images, even if only semi-conscious, undoubtedly play a part in the total color impression. Since these halos and after-images are complementaries of the colors combined, the work of art utilizing two complementaries, as yellow and indigo, remains twofold in hue, is more compactly unified than the canvas using

non-complementaries, as yellow and purple, thus creating, with its marginal indigo and green halos, a fourfold effect of greater liveliness but lesser unity. This effect may be likened to that of c and c-sharp when struck together, with their different sets of overtones and inevitable beats.

The 'expressiveness' of color is not an artificial and acquired symbolism (though such symbolisms flourish among primitive people, especially in religious art). Nor is it a matter of conscious and explicit 'associations'. It follows directly from the conditioning of the organism to certain immediately felt responses, based on universal experience. Nature provides the setting in the blues and greens of sea and sky, mountain and forest, the scarlets and oranges of blood and flame, for the division of hues into 'warm and cold', into 'advancing and retreating'. Further, colors absorb moods: the pastel tones of the early flowers, the feeling of spring; the umbers and crimsons, the sense of autumn; the golden yellows, the warmth of midsummer harvests—to give them out again in painting, decorating, jewelry, costuming and dramatic setting.

Provided with a list of appropriate adjectives, as stirring, soothing, melancholic, cheerful and the like, and presented in turn with a series of colored samples—a dozen hues, each with its vivid and subdued, bright and dark variants—older children can select with reasonable sureness appropriate verbal symbols to fit each color. This type of esthetic experience is sometimes known as empathy—the feeling-in or projection of your own mood into the color. It should be borne in mind in selecting wall colors and hangings.

Younger children may be indulged in the popular pastime of 'finger-painting', selecting their own colors and subjects, and daubing in the design—though some will prefer the old-fashioned painting-book with outlines supplied. Fairly early, however, attention should be drawn to the formal use of color in composition, as part of the general educational lesson of synthesis. Contrast—light with dark, vivid with dull, one complementary with another—gives the variety that enlivens art. Use of the same hue in different chromas and values gives unity to a design or paint-

ing, transforms a hodge-podge of details into an artwork. Reiteration of the identical shade, unvaried, may moreover prove as hypnotic and soothing as reiteration of a melodic or rhythmic motif in music.

To develop discrimination and artistic appreciation of the wealth of color tones in the world of nature, and discover natural aptitude for working in this medium as artist, designer or industrialist, directed work with a large assortment of the standardized colored papers now available is desirable—preceded by repetition of Newton's classical dissection of a beam of sunlight into the prismatic colors. A feeling for the threefold variation of color in the direction of hue, chroma, and brightness may be developed through serial arrangement by the child of HUES (from violet through blues, greens, yellows, oranges, reds and purples back again to violet, completing the color circle); of CHROMAS—from dusky bluish greys to vividest sapphire, from dull greens to emerald, from ashes of roses to full crimson; of TINTS and SHADES (brightness values), from straw-color through golden yellow to brown—paralleling the steps of the black-white continuum from light to dark. (See the Spry Students' Charts of the Munsell Color Company, providing outline guides and loose color samples.) The shorthand Munsell and I-S. C. C. designation of colors, as RP 5/1 (see Color Vision) may be introduced here, to parallel the ambiguous jewel and flower names of fashion.

Instead of teaching complementaries by rote, as formally as multiplication tables, children should be trained to find them for themselves, fixating a color patch on a grey ground for ten seconds or more under normal illumination, and noting the contrasting or complementary halo formed about it; or blowing the patch away and watching the after-image develop on the neutral ground, coming and going rhythmically. Red will be found associated with a verdigris or turquoise complementary (a blue-green); yellow with indigo or violet; purple (an off-spectrum color obtained by mixture of the end-of-the spectrum hues, red and blue) with green and so on, with slight variations. For the color deviate, com-

plementaries are usually limited to blue and yellow.

Another means of developing appreciation of color is the recognition exercise, easily transformed into a game. A color is shown for a short period only. After an interval, five or more closely similar in hue or brightness are displayed in turn, along with the original, and judgment passed as to which is identical with the one shown earlier. Colored filters in a lantern may be substituted for colored papers or yarns.

To enlarge the bounds of color experience and develop a natural sense for the expressiveness of color, excursions to flower gardens at different seasons, to the country in spring and fall, to the seashore and mountains and to art galleries should have a place in education. In the latter, the use of reds in early Flemish religious paintings may be studied, the blue-green distances of Leonardo da Vinci, the umbers and browns of Rembrandt, the silvery greys of Corot (both of the last-named may have been red-green blind). The impressionistic illusion of sunlight secured by the juxtaposition of minute color patches blended by the eye when viewed from the proper distance (Monet and Childe Hassam); the exotic color combinations of Peruvian-French Gauguin, should also be a part of everyone's color heritage. The intricate blend of colors in a Gobelin tapestry or a Persian rug or illuminated poem, green and rose Chinese Canton ware, the jewel-like products of the early American glass-blowers, the carnelian and turquoise of Egyptian jewelry, the illuminated capitals of old missals, are other sources of color education. Medici or other good colored reproduction or kodachrome transparencies may be used as substitutes where excursions are impracticable. A concert on the color-organ or even the work of a surrealist painter may stimulate a person sensitive to color in the abstract, and give him a fuller appreciation of its use in works of art. The use of color in architecture, familiar to the traveller in Spanish countries and on our west coast, was exploited in the last World's Exposition in New York City, as prophetic of the world of tomorrow.—E.M.

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COLOR BLINDNESS. Marked deviations from normal color vision, commonly though misleadingly termed 'color blindness', was first brought to the notice of science about 150 years ago. The hallmarks of this disability as recognised today were clearly outlined in the first reports of cases to British scientific societies, notably those of Harris the shoemaker in 1777, and of the famous chemist Dalton in 1794. Confusion of certain reds and greens, rendering ripe cherries on a tree invisible; reduction of the entire range of spectral hues to blues and yellows; a narrow neutral band in green or blue-green (and in off-spectrum purple); occasional shortening of the spectrum in the red, were typical. In the next forty years cases accumulated showing the same general trends, varying principally in degree. Color vision anomaly obviously was not a chaotic matter, but followed certain general laws. The defect was usually reported as independent of acuity or clearness of vision—near or far-sightedness or astigmatism—though often accompanied by one or the other. Serious deficiencies appeared more often in the male than the female.

Not till Helmholtz launched his three-component theory of color vision in 1856, however, did intensive exploration of the facts begin—and serious controversy arise. For following Thomas Young (1801), he suggested that color sensations in man were probably mediated not by seven or more distinct

kinds of sense receptors, but, more economically, by three: one servicing the quality of red; another, green; the third, violet. Each of these three receptor types was conceivably responsive to a certain range of light waves at the ends or middle of the spectrum—the long, the medium and the short, respectively—with the ranges somewhat overlapping. When excited singly, each receptor type responded with its typical sense quality. With simultaneous excitation of two sorts of neural units, intermediate or mixed hues emerged—orange, verdigris, indigo, purple, blue and yellow. When all three receptor mechanisms were equally stimulated, white resulted, by some alchemy of the nervous or mental system. The simplest explanation of color blindness, Helmholtz suggested, was lack or suppression of function in one of the three receptor mechanisms. Cases should fall, therefore, into one of three categories—red-blindness, green-blindness, violet-blindness—i. e. insensitivity to radiations at one or the other end or the middle of the spectrum.

Unfortunately, laboratory observation indicated from the outset and the testimony of competent color-blinds confirmed the fact that red and green disappeared not singly but together, leaving blue and yellow and the entire black-white scale of greys intact (instead of violet solely, to conform with the premises of Helmholtz). Another theory fitting the facts more nearly was proposed by Hering. Yoking the red and green sense-qualities in one pair, the blue and yellow in another, it became known as the 'opponent's theory.' Linked with opposing or antagonistic processes (chemical or otherwise) in a single neural mechanism, the two stimuli of a pair cancel each other when both processes are equally excited (as in a mixture of bluish green and purple on the rotating disk), leaving a residue of grey only to the eye. To explain the latter, a third receptor mechanism was posited, sensitive to all wavelengths of light and mediating the achromatic (black-white-grey) qualities, which are affected little or not at all by the loss of a pair of colors in partial color blindness. Observations made on the color-blind zones of the normal eye, on unilateral cases of color deficiency, and the testimony of intel-

ligent color-blinds confirm the greater serviceability of this type of theory.

The four primary sense qualities thus inductively chosen by Hering are the stable hues whose stimuli, with medium light intensity, are located at about 490 millimicrons on the spectrum; at 505; 590; 680 and out (blue—toward indigo, green—toward the blue, golden yellow and crimson). Each hue of a pair tends to evoke a halo or after-image of its opposite on a neutral ground, e. g. crimson is rimmed or followed by bluish green. Fatigue ('adaptation') to one evokes hyper-sensitivity to or a trend toward its complimentary, e. g. after fixation of yellow in the spectroscopie, reds become bluish or crimson. Red-green blindness, the more common form of sense deficiency, is on this theory simply the absence or non-functioning of the red-green mechanism.

The older theoretical captions red-blindness, green-blindness, etc. (known by a cumbersome Greek nomenclature as protanopia, deuteranopia, tritanopia), though abandoned by Helmholtz himself thirty years after their launching, persist in many quarters where the three-components theory has proved useful in commercial color-mixing and matching apparatus. The retarding effect of the careless perpetuation of these faulty captions on the recording and interpretation of unusual cases, on the designing of appropriate tests and on public comprehension of the phenomena of color blindness is, however, incalculable. Especially has this theoretical bias obscured the peculiar variant induced by shortening of the spectrum, best known as scoterythrous vision. Cases showing this variation may be diagnosed as red-blind by one examiner, green-blind by another.

Cases of deficient color vision, irrespective of any theory, fall into three main classes. ACHROMATOPSIA (total color-blindness) is characterized by complete absence from the affected individual's visual world of all the prismatic hues. This type of deficiency is often accompanied by non-functioning of the fovea (central area of clearest vision), by nystagmus or twitching back and forth of the eyeball, by shift of the brightest spectral region toward the blue, and light shyness.

DICHROMATISM (partial or red-green

blindness), with retention of blue-yellow and black-white vision, is the more common form, occurring on conservative estimate in 4 per cent of the male population. An occasional complication is shortening of the red end of the spectrum (scoterythrous vision). Accompanying this is a trend toward twilight vision, with shift of the brightest region of the spectrum from yellow or yellow-green toward blue (the Purkinje shift). This is usually confused with red-blindness by Helmholtzians (protanopia, lack of the first primary); but it may co-exist with normal color vision, merely cutting off the extreme reds toward crimson (Houstoun).

Another form of dichromatism, blue-yellow blindness (probably pathological) rests on doubtful evidence. There are also cases of shortening of the spectrum in the blue or violet, usually associated with RETINITIS PIGMENTOSA, sometimes with yellowish pigmentation of eye tissues from other causes.

The third type of deviation is known as COLOR WEAKNESS, usually affecting reds and greens, sometimes all four primaries. It appears to fill the gap between normal vision and dichromatism, and may occur in varying degrees. Higher color thresholds (and reduced color sensitivity), restricted color-zones in the retina, ready fatigue and heightened contrast phenomena characterize it.

The tendency for disability in color vision to run in families, noted in the earliest reports, suggests a secondary grouping into CONGENITAL and ACQUIRED cases. Pedigrees have been compiled in proof of transmission of the defect through heredity, though the pattern is peculiar. Color disability usually passes from a father, not to one of his sons, but to a certain proportion of his grandsons through a (relatively) unaffected daughter. (Only a fractional per cent of women show appreciable color deficiency). Acquired cases have been traced to neuritis of the optic nerve, excessive use of alcohol or tobacco, toxic infections of various sorts. A central scotoma or decreased acuity of vision often distinguishes them.

Congenital cases of red-green blindness and weakness may go through life conscious only of clumsiness in handling the vocabulary of color, unaware of specific sense defect. Attaching the hue

names of their color-capable brothers to the varying chromas and shades of their residual blue and yellow and grey sensations—the equivalent of the sands and browns and slates of the normal—they may use 'red' and 'green' correctly in about 50% of instances. Mistaking red signals, pants, fabrics, flowers, fruits and stamps for green may bring them into the net of the expert; but even after testing they may resist diagnosis.

A wide diversity of tests for color vision is available, none highly satisfactory when used singly. Prominent among them are: the SORTING by hue of wools or beads or colored papers into four to ten piles or compartments; the MATCHING of wools with standard skeins, as red, green, purple (Holmgren and Jennings); and the NAMING of lights shown in a lantern with adjustable color and reduction filters (Edridge-Green). Typical confusions occur between pinks, lavenders and pale greens; pinks and straw color; blue and violet; orange and olive green; red and brown; green and tan; blue-green and grey—all readily explainable by the Hering theory.

Lowered discrimination for colors may be tested with 'vanishing pattern' (pseudo-isochromatic) designs, with digits, letters or triangles in color on a variegated color ground (Stilling, Ishihara, Rabkin, Schaaff). Where laboratory equipment is available, typical mixture ratios of two critical colors to produce a third may be demonstrated with the rotating disk. With the aid of one or more spectrometers homogeneous light may be employed to locate a grey band in the green or blue-green region of the dichromate's spectrum; the thresholds for blue, yellow, green, and red hues, and the shortening of the spectrum at either end may be determined; or one region may be matched against another, with proper adjustment of chroma and brightness.

Caution must be observed by amateur examiners in estimating performance, which may be guided by purely secondary factors. In the spectrum of our sun certain hues (yellows and yellow-greens) are invariably bright to the human eye; certain others, relatively dark (blues, violets and reds). Unless the brightness value of test colors is equated, the dichromate may achieve

unmerited success through these cues, identifying the brighter specimens with yellow or green, the darker with red. The color normal, on the other hand, may apear deficiency involuntarily by throwing an intermediate, as orange, which is midway between red and yellow, with either of the latter, where the examiner may mistake it for a dichromatic confusion of color.

Certain precautions as to standard conditions should also be observed, first of all, with regard to illumination. Since colored surfaces are such solely by reflected light, daylight or an equivalent illuminant, not the ordinary yellowish mazda or the commercial blue bulb, is the accepted usage. Moreover, since hue varies also with intensity, the foot-candle reflectance should be measured with a portable photometer, and kept within 10 to 50 f. c. or millilamberts. Distance, duration of stimulation, surround, state of adaptation also exert an influence. Colored samples to be used or compared should be of equal brightness and saturation (vividness), and of known reflectance (as e. g. the Munsell papers).

The vocational importance of deviation from normal color vision is beyond question. With the adoption of the steam engine and the development in the seventies of systems of rapid transit, came the testing of the ability of engineers and pilots to discriminate signal colors. With the evolution of the submarine and the aeroplane, camouflage and the bombing-raid, keenness of color vision became a military problem of the first order. The extended use of color today in advertising, printing, merchandise, puts new demands on the color sense of the dyer, decorator and merchant. In educational systems, the use of colored chalk, colors in maps, color tests in chemistry and agriculture exposes the color deficient child or student to the charge of mental backwardness or indifference.

Progressive school systems are trying out group screening tests for school populations of all ages (e. g. at Ithaca, N. Y.) Ten standard colors in six-inch squares (kindergarten art material may be used in lieu of better) are displayed on a well-lighted neutral wall, in two five-member rows. Each pupil is provided with a pack of twenty 1½ inch squares, ten identical with the stand-

ards, ten representing confusion colors, tans and browns, dull greens, purples, pinks and lavenders. Each pupil selects from his pack the best matches and near-matches and arranges them in order on his desk in a pattern similar to that of the standards, stacking the residue in a pile of discards. If fifteen to twenty only are tested at a time, the alert teacher can readily spot doubtful cases to be given individual trial later. The percentage of serious defect in children as compared with adults is yet to be determined.

Knowledge of the quintile rank of each graduating pupil relative to his group for half a dozen hues, determined by tests with graded chroma series, is the ideal objective. Use of such records by vocational advisers may prevent many failures in the industrial and art worlds. Aptitude for the vocations of dyer and industrial colorist may be tested by ability in matching an array of forty paired samples exhibiting minute color differences, prepared by the Inter-Society Color Council, on the model of a British one.—E.M.

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COLOR VISION. The world of color with its wealth of detail, forever varying and unreliable, was regarded by early thinkers with suspicion—a noman's-land of illusion and mirage, compared with the substantial, stable world of touch. No satisfying account of its physical basis was available until 1666, when Sir Isaac Newton passed a beam of sunlight through a pinhole and a prism, dissecting it into a miniature rainbow, the seven-hued spectrum. The seven colors thus refracted—violet, indigo, blue, green, yellow, orange, red—were then re-combined with the aid of

another prism to form 'white light.'

These seven bands, the physicists presently decided, were keyed each to certain minute vibratory movements, propagated from a superheated source through an impalpable medium, the ether; differing from each other solely in vibration rate or wave-length. Red they linked with the slowest frequency, verging on heat; violet with the most rapid, akin to the chemically powerful ultra-violet radiations known today. Selective absorption of certain wavelengths by surfaces of objects, reflection of the remainder to the eye, was declared the primary cause of the varied play of color over the visible world. Total reflection produced the impression of white; total absorption, that of black. At this point physiologist and psychologist must take up the story.

Clearness of vision, definiteness of contour, is dependent primarily on the perfect functioning of the optical apparatus in the fore part of the eyeball. The proper degree of curvature of the cornea (the transparent window membrane at the front, protecting the circular curtain of the iris, which in turn regulates the amount of light admitted) is one factor. Farther back is the lens responsible for focussing rays of light from an object, near or remote, on the sensitive surface of the retina, at the rear wall of the eye chamber; an adjustment is effected through changes in curvature or 'accommodation.'

The near-sighted (q. v.) eye tends to focus red rays more effectively, the far-sighted, blue—with weakening in each case of the residue, usually seen as a diffusion circle. But the determining factor in color is the constitution of the retina, the inner sensitive membrane of the eye, with its mosaic of microscopic rods and cones, and its meshwork of nerve cells and fibres converging on the optic nerve. On these structures and their correlative brain areas depend the 150 hues (into which refined technique has now resolved Newton's 7-banded spectrum), and the hundreds of thousands of variants of these hues—light and dark, vivid and dull—which fill the color dictionaries and are stored compactly in the 'color solid' of the specialist.

The curious halos of contrasting (or complementary) hue, visible about col-

ored surfaces, along with the complementary after-images following fixed contemplation, went unnoticed for nearly a century and a half after Newton. So also did other interesting phenomena: the shift of color tone to another spectral position with alteration not of wave-length, but merely of light intensity, i. e. a yellowish green migrates into the pure green area; the variation of color tone on different backgrounds, e. g. blue on green turns reddish or violet; the fading out of color in the marginal field and in twilight when the cone-color system goes out of function, vision reverting to the more primitive achromatic rod-rhodopsin mechanism of our remote ancestry. Attention was first seriously directed to these apparently minor but significant phenomena by the emergence of rival color theories, and the discovery of wide individual differences in ability to identify, name or match colored lights and samples. (See Color Blindness.)

Understanding as well as observation of color phenomena is aided today by the adoption of uniform terminology. Description of color qualities experienced turns on three attributes, HUE, determined by place in the rainbow or spectrum; BRIGHTNESS VALUE, rated by comparison with ten steps in the black-white scale of greys or with photometric units, as foot-candles; CHROMA, degree of vividness of coloring, measured out from a middle grey barely tinged with color to maximal saturation (8 to 14 points). A popular shorthand system of designating color exactly (the Munsell) uses only the familiar hue-names blue, green, yellow, red and purple, with hyphenated compounds for the intermediates; followed by a fraction the denominator of which signifies degree of chroma, the numerator, degree of brightness. E. g., RP 5/1 signifies a red purple (or magenta) of medium brightness and low chroma—a purplish grey.—E.M.

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COMPENSATION, SENSORY. The loss of one sense will not automatically result

in greater acuity in some other sense as is commonly assumed, though some writers upon blindness claim heightened sensitivity especially in hearing, touch and smell—the phenomenon called the vicariate of the senses. Experiments show only improved functioning due to attention and practice.—S.P.H.

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COMPETITION. Nature has made the child helpless at birth, and custom provides him with a relatively sheltered life. But this does not prevent him, even before the age of one, from learning that good things of life must be shared with other beings. In the family circle, there may be brothers and sisters, all eager to obtain more security, affection and joy. In play, there is often sharing of toys, give and take, success and failure. In the school, there are boys and girls, equally anxious to attract attention, to gain recognition and praise. All such contacts arouse in the child the feeling of competition and rivalry.

See: AGGRESSION, INSTINCT, PLAY, SIBLING RIVALRY, TWINS.

COMPLEX. An emotional conflict which, according to the psychoanalysts, has an unconscious foundation.

See: CASTRATION COMPLEX, INFERIORITY, OEDIPUS COMPLEX, UNCONSCIOUS.

CONDITIONING. Conditioning is a term which applies to the learning process. In the early history of its use it designated more specifically the modification of human and animal behavior under certain prescribed conditions and was called the conditioned reflex. Now it is symbolic of a psychological theory or principle by which some psychologists, particularly, the behaviorists, attempt to explain all learning. Other expressions which have also been used for conditioning are conditioned response, learned response, trained response, acquired response, and associative—or associated response.

To Ivan P. Pavlov, a Russian physiologist, goes the principal credit, not only for discovering (about 1900) the principle of the conditioned reflex, but in developing a method of studying it and in appreciating its significance for psychology. Contemporary with the early work of Pavlov were the researches of two other investigators. V. M. Bekhterev, another Russian physiologist, conditioned the defensive reactions to painful stimulation of the skin and called the new responses associative responses. O. Kalisher, a German physiologist, studied the motor reactions to food stimuli and designated the modified behavior developed in his subjects trained or acquired responses. It has been suggested, however, that E. B. Twitmeyer, an American psychologist, should have been credited with the discovery even before Pavlov. He observed the phenomenon while studying the knee-jerk; however, he interpreted it as a phase of the association of ideas and failed to recognize its significance or to develop it further.

Pavlov made a special study of the digestive process in dogs, which incidentally brought to him some time later the Nobel Prize in Physiology. While carrying on these researches, he observed that if some stimulus, even though incidental, was present consistently while his dogs were being fed, this stimulus became integrated with the food. That is, it could now arouse in a dog behavior which had been associated previously only with the food. Various terms have been used to designate the stimulus, such as the taste of food, which will arouse the response without training. Among them are the following: primary stimulus, direct stimulus, original stimulus, natural stimulus, adequate stimulus, and unconditioned stimulus. Correspondingly, the terms used to designate the new stimulus, such as the sound of a bell, which has now become potent in arousing the response, include: secondary stimulus, indirect stimulus, acquired—or learned stimulus, substitute stimulus, and conditioned stimulus.

One of the principal contributions of Pavlov in the study of the conditioned response was the development of an objective technique for the study of psychology in general. His work in physiology was contemporary with that

of the mechanistic school of physiology, led by Jacques Loeb, and closely followed by the behavioristic school of psychology, led by J. B. Watson. It also paralleled the development of Gestalt psychology developed in Germany by Wertheimer, Koehler and Koffka. To a limited degree, all of these movements represented a repudiation of subjective psychology. To Pavlov, however, the conditioned reflex method gave promise not only of putting experimental psychology on a more sound footing but of actually opening up new fields of investigation. Although American psychologists were slow in appreciating the significance of the conditioned reflex, the work of Pavlov is credited with preparing the way for the acceptance and development of the behavioristic movement.

Essentially, Pavlov's method was as follows:—The dog, which was used as subject, was first subjected to an operation by which the ducts leading from the salivary glands opened outside the cheek. This made it possible to observe and measure the flow of saliva in response to stimulation. The unconditioned stimulus was the presence of food in the mouth while the conditioned stimulus was the sound of a bell. The laboratory research was done in a subterranean chamber and the experiment was controlled remotely from another chamber by the experimenter, so that practically all extraneous stimulating conditions were precluded.

The conditioned reflex, that is, the secretion of saliva on presentation of sound of the bell without the presence of food, was easily established when the above conditions prevailed and the proper procedure was followed. One of the factors found to be most important in the conditioning procedure was the temporal sequence involved in presenting the conditioned and the unconditioned stimulus. The most effective relationship was that of simultaneity; however, conditioning was quite readily established when the conditioned stimulus preceded the unconditioned stimulus by a short interval. Pavlov was unable, it seems, to condition the salivary reflex in dogs when the animal was fed before the sounding of the bell. This relationship has been very difficult to establish in laboratory situations. It occurs very readily and frequently,

however, in social situations in the everyday life of human beings

Just what the nature of the conditioning process is, it is impossible to state at this time. Nevertheless, some experimental data on the question are available. W. Drabovitch, a former student of Pavlov, and his associates have made a study of the conditioned reflex by means of the Lapique method of chronaxy (q. v.). It was found that during the various phases of a conditioned reflex (that is, the period before the response has been initiated, that during its presence, and that following its completion) the chronaxies of the motor areas of the cerebral cortex vary in the same way in which variations occur in the corresponding peripheral nerves. Isochronism is established between the cortex and the periphery the moment the reflex has been established. From the data on the chronaxy of the conditioned reflex, Drabovitch concludes that the origin of the modified response is the progressive establishment of a state of isochronism between the central neurones and the subcortical and peripheral structures.

Limitations of space do not permit even a listing, to say nothing of a discussion, of all of the responses which have been subjected to experimental conditioning. Only a few of them will be presented to indicate to some extent the scope of work that has been done. Incidentally, it can be inferred from a study of the experimental data that almost any reflex can be conditioned by practically any discriminable stimulating condition. Furthermore, almost any acquired response is subject to reconditioning in relation to new or modified stimulating situations.

In human beings, a few of the simpler responses which have been conditioned include the eye-wink, the knee-jerk, the pupillary reflex, and the withdrawal of the finger from an electrically charged metal plate. The more complex ones include feeding responses, movement of the bowels, action of the kidneys, and emotional reactions. Some of the studies have been concerned with the potentialities for integration in early infancy. In fact, some have dealt with conditioning of the foetus, although the data have not been wholly unequivocal as to the outcome. A few investigators have reported success in

securing in an unborn child, using loud noises as stimuli, certain motor responses resembling those in fear reactions. However, it is questionable as to whether the responses were made to the sound as such or to a widespread tactual effect.

D. P. Marquis studied the conditioning of the feeding reactions in newborn infants to the sound of a buzzer. The babies were approximately twenty-four hours old when they were introduced into the experiment and were observed for a period of ten days. They were fed six times daily and a buzzer was sounded each time just before the nipple was introduced into the mouth. Most of the infants were making feeding reactions to the sound of the buzzer by the end of the fifth day. A control group, however, showed no modification of their behavior on presentation of the buzzer, indicating the validity of the conditioned reactions of the experimental group. It was also found that within the first few days of life the infants became conditioned to certain temporal aspects of their daily feeding schedules. Babies on a three-hour schedule learned to be hungry at the end of about three hours, while those on a four-hour schedule learned to expect food only at the end of a four-hour period.

Among the more elaborate studies of conditioning in children is the study of emotion. Watson and his collaborators studied under controlled conditions the emotional development of a group of children whose developmental histories in detail were known from birth. The purpose was not only to gain information about the development of emotion, but also to determine if possible the contributions of heredity and training to such development. It was contended by the behaviorists that many of the emotional and social aspects of behavior in infants, which had hitherto been considered hereditary traits, were in reality the result of conditioning. In his experiments, Watson found that young infants in the nursery showed no fear of such things or conditions as darkness, slimy animals, large animals, furry or feathery animals, or people who were strange to them. He could elicit fear reactions only by administering such stimuli as pain, withdrawal of bodily support,

and sudden noises. The emotions of love and rage were studied in much the same manner. For rage, the principal stimulus was restraint of movement of the limbs, while for love the stimuli included such conditions as rocking, swaying, patting, tickling and stroking. At the end of the experiment, these three emotions emerged as the complete set of original emotions of the human infant, so far as the scope of this experiment was concerned. Furthermore, the stimuli just named were their unconditioned stimuli. The emotional life of the adult, according to Watson, is an elaboration of these original responses.

In order to show how this elaboration may take place, two processes associated with conditioning need to be examined. In the first place, it should be recognized that conditioning in the same individual may take place in a hierarchic order. That is, a stimulus, which has, up to the present moment, played the role of a conditioned stimulus, because of having been presented simultaneously with some unconditioned stimulus and lent support to another conditioned stimulus in a relatively new conditioning procedure. In this way, a child may be trained to fear a rabbit because every time the rabbit is brought near him or he approaches it on his own initiative an unearthly sound is produced by the experimenter. But when this learned fear has been thoroughly established, fear for some other object, say a harmless toy, may be developed if the rabbit is presented to the child at the same time the toy is presented. Theoretically, several higher orders of conditioning are possible and it is believed that many of them do exist in the lives of some children.

Secondly, the process of generalization contributes to the elaboration or extension of conditioned behavior. If a child has been conditioned to respond to a particular situation, the response may be made to only a part of it as though the whole were present. The subject may be conditioned to almost any stimulating situation; he may also be conditioned to any aspect or pattern of aspects of the total. This fact frequently plays havoc with the plans of the experimenter or the parent, since the child may respond and

become conditioned to aspects or patterns which are entirely different from those to which the one in charge is interested in having it respond.

Several principles governing the process of conditioning are worthy of consideration here. 1. A stimulus, which is presented simultaneously with another stimulus which elicits a response, will tend, on future occasions, to elicit the same response. This, in essence, is the conditioned response and has already been discussed.

2. A conditioned response is similar to but not identical with the unconditioned response. Suppose that the problem is to train a subject to lift his finger from an electric plate on hearing the sound of a buzzer. To do this, the buzzer must be sounded each time the subject feels the shock. When the shock is first applied, the subject is startled, violently withdraws the hand from the electrode, reveals in numerous other ways that he has been hurt, and is emotionalized about it. However, after the conditioning process has been completed and the buzzer is sounded without the presence of the shock, the subject is more calm, the response is made more deliberately, and the gross bodily behavior has been greatly reduced or eliminated. The newly established or conditioned response is of the same order as the original response but the amplitude has been greatly reduced and the bodily accompaniments practically eliminated.

3. A conditioned response can be weakened or eliminated under certain conditions. This phenomenon is usually designed by the term experimental extinction. In Pavlov's experiment the typical means of eliminating such a response was to continue the presentation of the conditioned stimulus without the support of the unconditioned stimulus. For example, Dog A, which had already been thoroughly conditioned to salivate at the beating of a metronome, was brought into the laboratory on a certain day and stimulated every three minutes by the metronome, without the presence of food, for eight successive trials. His record was like this: first trial, thirteen drops of saliva; second, seven drops; third, five drops; fourth, six drops; fifth, three drops; sixth, two drops; seventh, none; For his particular occasion, the extinc-

tion of the conditioned response was complete by the seventh trial. The extinction was only temporary, however, since during the initial trials on the next day, salivation was resumed, though at a reduced rate, on sounding of the metronome. As the instrument was sounded on subsequent days without the food stimulus, the amount of saliva secreted became less and less until finally the salivary response ceased entirely. Extinction was complete and permanent at this point.

A second aspect of extinction of the conditioned response is what is known as negative adaptation or habituation. When the response is made to the conditioned stimulus under conditions which for any reason reduce the strength of the determining tendency or the motivational factor in the conditioning process, the integration between stimulus and response tends to weaken. The greater the opportunity for desultory and unmotivated responses the greater is the negative effect. This holds true only to a certain extent, however, since complete extinction seldom if ever occurs. After an interval of time has elapsed the conditioned response tends to be reinstated.

A third aspect of extinction is related to cessation of practice of the conditioned response. It is a phase of the more general problem of forgetting what has been learned when the acquired responses are no longer being used. Just what takes place in this process of oblivescence lies beyond the scope of this discussion. Suffice it to say that cessation of practice of the specific conditioned response does not result directly in its disintegration but gives opportunity for establishing other responses for which there may be stronger determination or motivation.

A fourth aspect of extinction involves the presence of a more appropriate or potent stimulus. The common term for it is distraction. If, while the dog is responding to the bell, a bee is buzzing about the laboratory, he may fail to salivate. When the extraneous stimulus continues to be dominant, the conditioned response may not only become weakened but may eventually be eliminated entirely.

The last aspect of extinction involves weakening or elimination of the conditioned response by the presence of

some other activity or barrier which prevents the response from being made. This modification is sometimes called counter-conditioning.

4. A conditioned response may be strengthened by reinforcement. Probably, not all of the factors which tend to reinforce the response are known, but the following are some of them. In the first place, as has already been implied, practice plays a part, but in and of itself it is of minor importance. Repetition gives opportunity for other more important factors to operate, particularly, the development of the proper determination or set for the

Secondly, the strength of a conditioned stimulus.

Secondly, the strength of a conditioned response is modified by its consequences. If the consequence takes the form of punishment or unpleasantness, it tends to make the response more variable; different responses are attempted by the subject in order to be relieved of the noxious situation. If it is in the form of a reward or pleasantness, it tends to make more uniform the response, to facilitate its repetition, and thereby to strengthen the set for making the conditioned response.

Finally, a conditioned response is strengthened somewhat proportionately to the closeness of the reward to the response. This proximity may be either temporal or spatial. In terms of the illustrations presented in this discussion, the more closely the food follows upon the presentation of the bell, the stronger and more specific will be the conditioned response. At the lower limit in this spacing is simultaneity, which, as has already been shown, is the most ideal condition for developing the conditioned response. The upper limit is extremely variable, depending upon the species and the age of the subject used, the intensity and congruity of the reward or unconditioned stimulus employed, and other prevailing conditions. In lower animals, the interval between the two stimuli must be relatively short, a few seconds to a few hours. In children, it may be extended possibly to hours or days, while in adults it may be lengthened to days and months, as is indicated by experiences in everyday life.

The problem of unconditioning a response is possibly next in importance

to that of conditioning it. Some of the principles involved in the unconditioning process were implied in the discussion in the preceding paragraphs, especially those parts dealing with extinction of a conditioned response. However, it will be worthwhile to focus attention more sharply on this problem. The cue may be taken from the studies on emotion by Watson. After conditioning the emotions of several infants in the nursery to certain neutral or harmless situations, he proceeded to eliminate these newly acquired emotional integrations under experimentally controlled conditions. Having found that emotions could be built into the system of behavior by conditioning, the object now was to determine if they could be broken down again, and, if so, under what conditions and by what techniques.

After a child had been conditioned to fear a rabbit because he had been frightened by a loud noise each time it had been brought into his presence, different procedures were followed in an attempt to eliminate this fear. One method used was that of verbal organization. The child was shown pictures of rabbits, and their qualities, such as their beauty, harmlessness, and adaptability as pets, were discussed with him. This method did not prove effective, at least under the circumstances. In the first place, it has the obvious limitation that it can be used only with children who have acquired some facility in the use of the language function. But a more serious limitation is that these ideational situations are too much unlike the original situation. As Watson stated it, organization of verbal responses without the supporting structure of actual manual and visceral adjustments to the rabbit itself proved to be ineffective in removing the child's fears.

Another method was that of frequent application of the conditioned stimulus. According to the results obtained by Pavlov in the food-bell experiment with dogs, this method should have proved very effective. That is, the principle of experimental extinction should have applied in this situation also. However, it failed to do so. The most that could be said for it was that in the case of some children no negative reactions were made—in no case did positive

reactions develop from the use of the method. Apparently, reactions which involve such deeply seated bodily responses as are found in the emotions can not be eliminated so easily as can the salivary reflex in the continued presence of the conditioned stimulus.

The third method involved the socialization of the rabbit situation. It was assumed that what happens on the school ground when one child expresses fear of some object, of which the remainder of the children are not afraid, would take place here. That is, under ordinary circumstances when the frightened child sees that other children are not afraid of the object, or when they taunt him about his ungrounded timidity, he frequently braces up and exhibits positive behavior, discovering for himself that his fears are without foundation. The results of Watson's experiment showed that in some cases it was successful to a limited degree. Where socialization was of a mild form, involving imitation, the results were more satisfactory. However, he concludes that on the whole this is one of the most unsafe methods used in eliminating fears. It is likely to build negative responses not only in relation to the situation arousing the emotion but to many other situations in society which are harmless or even beneficial. Furthermore, occasionally the children who showed no fear of the rabbit became frightened by the reactions of the child showing the fear, thus conditioning them also to fear the animal.

In summary, it may be said that although these methods were not completely worked out, the results obtained for none of them showed promise of a safe and efficient method of eliminating conditioned fears.

A more fruitful method was the method of reconditioning or unconditioning. This process is something more positive than mere experimental extinction, although the term unconditioning is used sometimes to designate that type of elimination. Essentially, it amounts to decreasing the intensity of the fear-producing stimulus and introducing or increasing the stimulus for a response which gives pleasure to the subject. In the above case, the rabbit was placed at a distance calcul-

ated to arouse no response. At the same time, the child was given candy and food which produced a pleasant experience. Day by day these pleasant experiences in the nursery were repeated and the rabbit was brought closer and closer to the child while he was eating, so that it began to be an integral part of the total pattern of pleasant stimuli. Finally, the unconditioning process was complete and he began playing with the rabbit as he had been doing before the conditioning process was begun. Furthermore, he not only regained his composure in the presence of the rabbit but he also lost his fear of some other objects, such as rats, feathers, furs, and dogs, which he had acquired during the laboratory conditioning period. This latter modification indicates that the principle of generalization may operate as well in the unconditioning as in the conditioning process.

Applicability of the processes of conditioning and unconditioning in the home, the nursery, the school, the clinic, and the everyday life of the individual, is readily recognized. Sufficient space is not available here for a complete discussion and illustration of the scope of their relevancy to these aspects of life; however, some illustrative material may be offered. The technique of conditioning can be used to some extent in determining the presence of sensory defects, either organic or functional, in a patient, where more straight-forward methods prove impracticable. For example, a newborn infant may be tested for deafness by ringing a bell or sounding a buzzer simultaneously with stroking the sole of the foot with a needle with sufficient force to produce withdrawal. If, after several trials, the foot is withdrawn on presentation of the sound only, deafness is not indicated. Or, a patient may complain of blindness in one or both eyes. In a similar manner it is possible to determine whether the disorder is organic or functional, as may be observed in some neuroses. In a case of this kind, one technique to use would be to present a visual stimulus, such as a beam of light, along with an electric shock. If later, the presentation of the light alone results in withdrawal movements, the organic integrity of the sense organ and related

structures is assured and the functional nature of the defect may be safely assumed.

The method of conditioning has been applied in determining something of the nature of a neurosis in both animals and human beings. Pavlov first discovered the phenomenon of laboratory neurosis while working with his dogs. A dog was first conditioned to salivate on application of an electric shock to a certain point on the skin, the severity of the shock being increased as the conditioning progressed. After the conditioned response had become thoroughly established, even to a very severe shock, the process of generalizing the reflex by progressively applying the shock to new places on the skin was introduced. Stable reactions continued through the addition of new points for a while, but suddenly a limit was reached. From this point on, as new places were added, strange and unusual modes of behavior appeared. Salivation ceased, the animal became restless, violent defense reactions developed, and furthermore, several weeks were required to reestablish the process of salivation on stimulation of the original point.

Similar results were obtained when the subjects were required to discriminate between a circle and an ellipse. After a dog had been conditioned to salivate on presentation of a circle, ellipses with varying ratios of the semi-axes but equal to the circle in area and luminosity, were presented progressively. Food always accompanied the circle but never the ellipses. In the first ellipse, the ratio was 2 : 1 and the discrimination was quickly established. The shape of the ellipse was made progressively to approximate that of the circle through stages of semi-axis ratios of 3:2, 4:3, etc. Discrimination proceeded, more rapidly at first and then more slowly, until an ellipse with a ratio of 9:8 was reached. Here efficiency of discrimination began to break down. The dog, which had hitherto been very calm and complacent, exhibited various kinds of defensive and negative behavior. It even became violent on merely being taken into the experimental room. As Pavlov expressed it, the animal exhibited all of the symptoms of an acute neurosis.

H. S. Liddell and H. Lundholm have

continued the study of laboratory neurosis in America, Liddell using the sheep and the pig and Lundholm human beings as subjects. The "neurotic" sheep, experimentally conditioned, has many of the symptoms, both physiological and psychological, of the neurotic human patient. Therefore, Liddell proposes that this animal may serve as a standard animal preparation for the study of therapeutic measures in restoring equilibrium in the functionally disordered human patient.

Lundholm first conditioned his subjects to withdraw the finger from an electric plate when a light was flashed or a hammer was sounded. Then various conflicts were established by introducing hypnotic suggestions which were strongly contradictory, either to this previous conditioning or to certain posthypnotic instructions. The mechanism employed by the subjects, to "escape" from their artificially induced conflicts were very similar to those employed by the neurotic patient in relation to the real conflicts of life.

In one subject, functional blindness occurred with a pattern of behavior similar to that found in certain forms of hysteria. In order to avoid the conflict established by being thoroughly trained to lift the finger each time the light was flashed on but having it strongly suggested to him under hypnosis that he would not be able to see light in certain trials, the subject did not "see" the light during these trials. Another subject met the situation in a manner characteristic of neurasthenia. His behavior was variable, one time failing to see the light, at another ignoring the shock, and at still another failing entirely to respond. Accompanying these responses were indications of marked bodily discomfort, such as restlessness, profuse perspiration, and moaning.

Under other modifications of the technique of conditioning and strong counter-suggestion, one subject showed marked amnesia for the specific details of the experiment and a rapid fading of memory for the whole experience. Under still other conditions the subjects developed a strong expectation that a certain aspect of the stimulating situation would be present but which was really absent at the moment the response was made. These subjects de-

veloped a hallucinosis, reacting as though this stimulating aspect were present.—M.O.W.

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See: LEARNING.

CONFORMITY. Conformity is a question of cultural adjustment. It is a product of social pressure as well as of individual preference. And the tendency to conform begins practically at birth, with the individual's entrance into a social milieu.

Society meets the individual at the gate of life. He is never allowed to choose his environment at birth, even if he were able to. He is placed within it and stamped as it were with definite specifications, such as "John Doe, born

April 1, 1940, Columbus, Ohio, U. S. A., a dentist's son, protestant by faith." Every item in this invisible but nonetheless terribly real label—and there are many additional items in it—indicates the range of his subsequent opportunities and development.

Moreover, the environment of his childhood is further determined by the social status of his parents. Life is as it were a card game in which the cards are dealt at birth under strict supervision of society and in accordance with the given economic, racial and religious rules. If you are a successful banker's son, you get aces and trumps. If I am a poor sharecropper's son, I get deuces and no trumps. And then, of course, we are free to play the game.

To put the same idea in different words, society controls man's 'range of stimulation,' to use F. H. Giddings' expression. This control is by no means absolute, of course, especially in modern democratic countries. Every person has a chance, small as it may be, to enlarge considerably upon his opportunities or to fail miserably in them. For one's cultural environment defines one's future only in a general way, leaving more or less ample room for specification, adjustment and modification.

The limitations thus imposed upon the growing individual play a very important role in his subsequent development. But his community is not satisfied even with that. In addition to LIMITING his opportunities, it constantly exercises another function, the SUGGESTIVE function.

Each social group—from family to the community of nations—has its traditional standards of valuation. It does not allow the child to grow and develop as he pleases or as circumstances would mold him. It constantly intervenes with advice or order, praise or punishment.

"Sit quietly, like a good boy."

"Go and wash your hands. Don't you know that you must never come with dirty hands to table?"

"This is a bad word. Never, never say it again."

"She is pretty, isn't she?"

"It's a lie, shame on you."

"Go and play in the park like a nice girl."

"Don't you dare to contradict your elders."

"I don't like you: you are a little thief."

"Spinach is good for you, it makes you strong" (for further persuasiveness, there is Popeye the Sailor).

If the child happens to conform, he is praised, encouraged. He likes, naturally, to be lauded, rewarded. Without realizing it, he learns to conform.

If the child happens not to conform, he is discouraged, punished. There is nothing pleasant about it. Not without a grudge, he yields, perhaps says, "excuse me." And later on he may forget the grudge. The result is the same: he conforms.

All this is a question of adjustment. It is easier to accept a social pattern of behavior, feeling and thought than to devise and defend an individual one. It is more advantageous, too. As the child approaches youth, he learns to consult willingly what the 'proper' thing is—in manners, in conversation, in writing, in studying.

It is not surprising at all, therefore, that by the time an individual reaches adult age, he becomes a fairly faithful representation of his social milieu. And as cultures vary throughout the world, a Frenchman, a Russian, a Japanese, or a Zulu reveals his cultural background in his gestures and language, in his clothing and manners, in his thoughts and tastes—in short, in his entire personality. He is a product of mores no less than of individual drives.

There is a thousand and one way at the disposal of society to enforce its pattern of culture upon people's psychology. Language does it, for, whether we realize it or not, "words are heavily charged with moral content," as T. W. Arnold put it in his "Folklore of Capitalism." The home is shaping attitudes at the time when one's nature is most plastic, suggestible and uncritical. The school continues the work, training the individual's body and mind, inculcating beliefs and doctrines. The church preaches from above, in the name of the highest authorities. The public opinion is always ready to intervene by declaring what is right and what is wrong. The institutional life built on a historical foundation determines by pull and push men's opportunities and choices. Each trade and profession has its habits, fashions, codes of adequate conduct, guiding tempta-

tions. Literature, theatre, movies, and radio polish the individual and fit him even closer into the pattern of culture. And finally, there is police and courts of law ready to take care of those who, despite all the moulding and cleansing and scrubbing of character, resist and break the rules of conformity.

Wherever you live, whoever you are, there is no escape from the countless ties with which society binds its members from within (including conscience) and from without. These ties are motley, however, insofar as society is a hierarchy or combination of coexisting groups rather than one uniform pattern. "Everywhere there are groups of men," says J. H. Denison, "each of which is occupied with painting for themselves and others the portrait of a certain type of self which they then try to impose upon every man who comes under their influence. When their victim emerges stamped with this group portrait and states sincerely, 'I am a Klansman, or a Theosophist, or a Fundamentalist, or a Pacifist. . .', he is committed to a particular social pattern, whether it be approved of or disapproved of by the majority of people."

In consequence of these processes and pressures, people's likes and dislikes assume a more or less common form and direction in each relatively uniform environment. "The result of intimate association, psychologically, is a certain fusion of individualities in a common whole, so that one's very self, for many purposes at least, is the common life and purpose of the group," asserts C. H. Cooley. "One lives in the feeling of the whole and finds the chief aims of his will in that feeling."

A certain degree of conformity is, of course, unavoidable and in fact desirable, as an essential condition of adjustment. It is good for any child to become socially minded, responsive to the "yeas and nays" of his culture. But, in submitting himself to the forces of conformity, as they express themselves in his immediate environment, he may acquire traits of character, which are objectionable from a broader point of view, such as intolerance to other groups, racial, religious or political. While the child is unable to make proper discriminations in this regard, it becomes the duty of parents and teachers to avail themselves of various

forms of public opinion and help the child to adjust himself to social conditions in a wider perspective. They must guide the child, in his adjustment efforts, to accept certain expressions of public opinion while rejecting others; for conformity is, after all, a question of selection.—R.B.W.

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CONGENITAL TRAITS. The term "congenital" has been defined as referring to any condition appearing in a child acquired during development in the mother's uterus. It is thus a specific label for physical or psychological traits which have resulted from prenatal environmental influences.

Congenital inheritance may be distinguished from **germinal inheritance**, which has reference to differential influences potential in the germ plasma before the latter is involved in the reproduction of offspring. Such transmission is called **germinal inheritance**, because of the central role played by the genes in the determination of human characteristics. Congenital inheritance is not synonymous with the expression "biological inheritance", since the latter connotes the transmission from generation to generation of characteristics resident in germinal organization. Congenital inheritance should thus be thought of as referring to traits or qualities acquired by a developing embryo or fetus after conception and before birth. The expression "social inheritance" has been coined to designate influences playing on an offspring subsequent to birth (post-natally) and after congenital factors

have had an opportunity to register their effects.

Prenatal conditions or influences which are believed to affect the potential physical or psychological traits of a developing child include (1) extreme malnutrition of the mother, (2) wasting disease such as cancer, diabetes, tuberculosis, and pellagra, (3) infections, particularly those produced by syphilis, which are sufficiently powerful to affect the child's nervous system, (4) toxins and poisons which cannot be neutralized by the system, (5) glandular deficiency in the mother, particularly hypo-thyroidism, (6) severe emotional shocks which bring in their wake glandular disturbances, and (7) birth injuries of a nature likely to affect the brain through skull pressures.

Students of child development have concluded that, although physical and possibly mental defectiveness may be the result of potential factors in the germ-plasm, in some instances they are apparently brought about by excessive parental alcoholism, maternal malnutrition, syphilitic infection, and birth injuries. Congenital syphilis for example, may result in a variety of disturbances the most extreme of which is the form of insanity (organic psychosis) known as paresis.

Fortunately for both parents and children, potential sensory and motor defects, intellectual subnormality, and to a degree insanity may be to a considerable extent prevented through intelligent control of conditions obtaining during intra-uterine life. With the coming of knowledge regarding the nature of congenital inheritance much less confidence is apparently being placed in the older doctrine that conditions appearing at birth are inevitably biologically inherited.—L.P.T.

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CONSCIOUSNESS. It is generally assumed that the moment of birth and

the beginning of conscious life coincide. The fact is, however, that we do not know it, mainly because no adult is able to recall the first manifestations of consciousness. It may be contended, of course, that such manifestations can be observed in early life. But the difficulty here is that we can observe only reactions which may or may not be accompanied by consciousness. If we approach the problem in a purely physiological way we may be able to demonstrate, no doubt, that living beings react, even before birth, for instance, to sound stimuli; that has been proven by L. Carmichael, B. Wellman and A. F. Rawdon-Smith, in their experiments on guinea-pigs. Such experiments do not demonstrate, however, the existence of consciousness: a reaction to an auditory stimulus is not necessarily "hearing", as becomes clear when we consider strings of a musical instrument responding to sounds. There seems to be no doubt about the reactions of young or even unborn living beings. But are these reactions responses involving consciousness? Such a conclusion is doubtful.

Observation of newborn infants gives us, to be sure, a more definite and reliable information. Specialists in child education tell us that the infant's first movements are general rather than specific: it reacts to stimulation without responding to its source. "If we ask, what the infant brings into the world with him in the way of sensorimotor equipment (specific)," say K. Pratt, A. Nelson and K. H. Sun, "we are disposed to answer, not much." In exceptional cases, we may observe that the eyes will fixate and follow a bright and moving light during the first day. But on the whole, responses to external stimuli, visual or auditory, are exceedingly rare and awkward until several weeks later. Moreover, "the frequency of incoordinated movements in the infant and the fact that at times one eye is stationary while the other eye moves in lateral and rotary directions," declare M. Sherman, I. Sherman and C. D. Flory, "indicate that the integration of the type seen in a mature child is not yet fully developed in the newborn infant." Even the pupillary reflex is occasionally absent in newborn babies. It has also been established that the infant does not begin to turn its head toward sounds before

2-4 weeks. As far as the association of auditory and visual experiences is concerned, it manifests itself only during the fourth month of life. And memory, for all we know, is non-existent to start with, and there is not a man in existence who can remember anything of the first months of his life in this world. Infantile 'amnesia' is not necessarily, however, the result of a shock received by the baby deprived of its safe and cozy place in the mother's womb, as the psychoanalysts assure us: it may signify merely that early consciousness is very vague and weak.

We must conclude, therefore, that the infant is not born with, but acquires, the ability to treat objects as external to it. In other words, consciousness is not a trait we are born with, but rather something we gradually acquire. "The baby comes into the world," say F. Peterson and L. H. Rainey, quite significantly, "with a shadowy consciousness." Life and consciousness are not after all, identical—R.B.W.

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CONTROL GROUP. When conducting an experimental study designed to test the effect of an experimental factor, it is essential to control the other factors that may affect the result. For example, if it is desired to study the effect of a certain method of teaching geography to fifth grade pupils, it is necessary to know what influences the experiences may have which pupils receive in the home, in other classes than the geography class, and outside of home and school. It is also important to know what practice effects, if any, the giving of the tests used in the experiment may produce.

To take such additional factors into account, two groups of subjects are frequently used in an experimental study. One group constitutes the experimental

group, the other of approximately equal size, equal development, and living under the same conditions as the experimental group is employed as the control group.

Both groups are tested at the beginning of the experiment. Both are tested at the end. During the time elapsing between the two tests, the experimental factor is applied to the experimental group while the corresponding time for the control group is devoted to some experience not directly related to the experimental factor. When the experimental factor has been applied for the required length of time both groups are tested the second time. Any gains made by the control group are "subtracted" from the gains of the experimental group and the remainder ascribed to the influence of the experimental factor.

There are many methods for equating experimental and control groups, such as pairing of individuals, matching of whole groups, use of co-variance technique and others. Similarly, there are several methods for "subtracting" the gain of the control group from that of the experimental group. But the fundamental aim of all methods is to take account of the influence of factors other than the experimental variable.—R.H.O.

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COOPERATION. The word cooperation literally means "working together". However, there are many different ways of working together. The teacher who says, "Why, of course my pupils cooperate beautifully; they always do everything which I tell them to do and never do anything without asking me first," has pupils who cooperate but on a very low level. Courtis (N. E. A.—Eleventh Yearbook of the Dept. of Supervisors and Directors of Instruction. COOPERATION PRINCIPLES

AND PRACTICES. pp. 21 ff) names eight levels or types of cooperation and has "arranged them in order of their probable evolutionary development and complexity": (1) Reaction with mechanistic action only as wind and water 'cooperate' to form the waves; (2) Involuntary as when "the careless smoker who throws unextinguished cigarette butts into waste paper baskets 'cooperates' on the involuntary level with the fire department by supplying them fires to extinguish"; (3) Impulsive motivated by satisfaction in expression, as when an individual cheers with a crowd at a football game; (4) Individualistic where the work which the group of men do merely repeats the work which one man does, and multiply his power to act; in this type there is no group planning or unity, the cooperation arises spontaneously; (5) Assistance cooperation which is subdivided into: (a) goodwill motivated by sympathy for others, (b) compulsion, motivated by a desire for selfish benefit or desire to control behavior of others for their supposed benefit, (c) Compromise, (d) Exploitation motivated by a desire for selfish benefit, (6) Competency motivated by a need for expert assistance as when the individual asks for the aid of a doctor or teacher; (7) Leadership motivated by a desire for individual and social progress after one man becomes sensitive to the needs of the group and formulates plans by which these needs may be met; and (8) Democratic cooperation motivated by a desire for unity with complete self-expression through the group and group welfare. It is on this last and highest level that we have the fewest effective techniques developed. On this highest level of cooperation there is an intelligent balance between the individual and the group, with the group existing primarily for the welfare of all of those in it.

The highest type of cooperation, democratic cooperation, is the hardest to achieve because so many factors have to be taken into account and because the techniques for putting democracy into cooperation are difficult to develop and learn. Democratic cooperation implies that the ideas, needs and abilities of each and all of those involved shall be given reasonable consideration; it

also implies that much attention will be given to continuous development and improvement of techniques and groupings so that the great benefits of democratic cooperation may be realized. Democratic cooperation is not engaged in by the individual simply to help the group; rather the cooperation is best promoted if the individual can be led to see how he can best help himself THROUGH helping the group. Cooperation is fundamentally necessary in those personal and group problems which the individual working by himself is not large enough to solve.

Competition and rivalry would seem to be the chief alternatives to cooperation. Advantages of these alternatives are: (1) They are simpler and easier to understand; (2) They are much less difficult to teach and promote, at least in our culture, and (3) They have great appeal as short-cuts to quick results. Their dangers lie primarily in the fact that the full potentialities of the individuals of the group are not likely to be very far developed and too much time and effort is wasted in antagonistic activity.

The concept of cooperation is given lip-service by most of those who are concerned with the welfare of the child. The question may well be raised: What are some of the areas in which functional cooperation and cooperatives should be developed? A few of these areas will be briefly discussed to indicate some of the possibilities where higher levels of cooperation than are now generally practiced could be developed.

In the past it has been the practice of someone beside the child to decide almost exclusively what is to be studied, when it is to be studied, how it is to be studied, and then to check on the efficiency of the study after it has been completed. This has led to the prevalence of teachers who dominate the school work with an insufficient amount of democratic cooperation for effective learning, as a result. Today many teachers are making tentative steps toward encouraging the learner to participate to a much greater extent in. (1) the decision as to what problems it is important for him to study; (2) the formulation of general school goals and policies; (3) the setup of the curriculum; (4) the making of as-

signments; (5) the getting and using of materials; (6) the making, using and interpreting of tests; (7) the developing and using of effective records; (8) the planning of activities in which the individual will engage; (9) the evaluation of past learning through formal and informal means; (10) cooperative community endeavor engaged in for the purpose of making life better and happier in the community.—R.H.S.

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CRIPPLED CHILDREN. From the medical point of view, crippled children—or children with bodily defects caused by birth injury, accidents, and such diseases as infantile paralysis, osteomyelitis, cerebral palsy, or rickets—must be treated as patients. The poorer families can secure some help from Federal agencies (aid provided through the Social Security Act, 1935, amended 1939) as well as from the National and International Society for Crippled Children. But from the standpoint of child guidance, these children should be regarded as suffering from psychological difficulties grounded in their physical difference from other children. Frustration and inferiority are obviously quite common among crippled children. Adjustment is the main problem.

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See: FRUSTRATION, INFERIORITY.

CRUELTY. Apart from occasional cases of cruelty among very young children who do not understand the meaning of other persons' suffering, cruelty is a very serious defect of personality, which is often caused by bad upbringing and severe punishments.

See: PUNISHMENT, SADISM.

CRYING. In infancy, it is a normal expression of physical need (hunger), discomfort, ailment, or startle. At an early age, the child may also use crying especially at night, in order to attract the mother's attention; in these cases, the less attention is paid to him the better. In the course of time, however, the crying passes more and more on a psychological basis, whether accompanied by the above troubles or not, and becomes an expression of grief, anger, and related emotions.

See: EMOTIONAL PROBLEMS, PAMPERING.

CUBS. See: BOYSCOUTS.

CULTURE CONFLICT. Culture includes the beliefs, acquired sensibilities, preferences, and action patterns shared by a group and passed on to the children through imitation, education, and conditioning. Each child first receives the culture as interpreted by his own family. Ordinarily, the ideals of one or both parents become an intrinsic part of the child's developing personality. When a parental influence is reinforced by the school, the church, and the neighborhood, the child gains in security feelings and wholesome integration. This happens often in villages of homogeneous population but rarely in cosmopolitan centers where different subcultures clash. The American-born

child of foreign parentage may be torn between loyalty to his family and loyalty to American ways as exemplified in his schoolmates. Sometimes he rejects the influence of his parents and identifies himself with a neighborhood gang, supposed to be "American" but actually made up of other bewildered children of various conflicting cultures. Delinquency (q. v) often results.

Culture conflict is not limited to different racial and national groups. Our complex native American culture is full of contradictions. Karen Horney calls attention to the incompatibility between Christian ethics of brotherly love and the competitive structure of our economic system with its glorification of "success" based on "getting ahead", which may sometimes depend upon ruthlessness toward the competitor.

A. W. Jones finds that economic class differentia cause wide variation in judgments of right and wrong in situations where property rights conflict with a variety of personal rights. Using an attitude questionnaire, he found practically no overlapping between scores of top executives and C. I. O. members. Teachers and other "white collar" workers may identify themselves with either extreme, or alternately with both, or at least in their verbal injunctions to children, they may inculcate simultaneously several incompatible ideals, such as "unselfishness" and "success" (conceived in terms of money, prestige, authority over others, etc.); liberty, as an ideal irrespective of the uses to which it may be put; unquestioning obedience to constituted authority, etc.

Besides all this, Ruth Benedict finds that three aspects of our traditional occidental child training tend to unfit the child for the demands of adult life. We train the child to be submissive and expect the adult to assume a dominant role (see dominance). We teach the child that sex is shameful and expect the adult to lead a normal sex life in marriage. We expect productive work of adults, but insist that children must "play" even when they desire to do something useful. The emotional upsets of adolescence Dr Benedict interprets as results of the discontinuities of our cultural conditioning. They do not occur in simpler, more consistent "primitive" cultures

where the child is taught nothing he must later unlearn.—M.F.M.

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CUMULATIVE RECORDS. Cumulative records can serve a number of purposes, e. g., assist teachers in learning their new pupils more quickly and thoroughly, provide valuable data in making case studies of problem children, furnish the basis for guidance, facilitate the transition of pupils from one school to another, and supply data for research.

The contents of cumulative records should be determined by the purposes which they are to serve. Items commonly included are: (1) personal data, e. g. name, date of birth, residence; (2) family data, e. g., the parents' names, places of birth, education, occupation, religion, and language spoken in the house; siblings and the pupil's location among them; any information indicating a broken home; (3) health record including immunizations, contagious diseases, absence due to illness, energy level, dentition, condition of eyes and ears, operations, etc.; (4) growth record, e. g., height and weight

—not only actual measurements but status of these in the pupil's age group; (5) standardized test record including intelligence tests as well as educational tests; (6) a teachers' marks and comments; (7) record of school progress including promotions, failures, choices of courses and curriculum, educational objectives; (8) notes on social and extra-curricular activities, e. g., class offices held, attitudes of others toward the subject, adjustment to the opposite sex, choice of friends, proficiency in games, hobbies, interests, etc.; (9) ratings on personality traits (10) vocational interests and ambitions; (11) recommendations made from time to time; (12) records of conferences with parents or others.

Care should be taken to date entries. Records should be kept readily available to teachers as well as administrators, and both should be encouraged to use them. Summaries from anecdotal records and behavior journals may be filed with the cumulative records. Record forms for all objective data facil-

itate the task of making the records greatly. Graphic records for growth and progress data carry more meaning to the user than just figures alone, although the latter should not be omitted. Record forms which are worked out cooperatively by teachers and administrators are more apt to be kept faithfully and used understandingly than forms developed elsewhere and thrust upon teachers by authoritative methods.—S.M.S.

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D

DANCE. It is now generally accepted by progressive educators that dancing, as the art of movement, has a basic contribution to make to every child's life.

"Action speaks louder than words." "A man of words and not of deeds is like a garden full of weeds." These are just a couple of age-old adages that point out how important action habits are. Certainly modern educational philosophy believes in learning by doing. All in all, a child's movement habits have deep character as well as health significance.

The young child today is, for the most part, like a little animal deprived of the developmental movements that nature intended him to have. What with the restrictive clothes and shoes, the artificial abodes, paved streets and impeded natural activities of modern civilization, the dance has a particularly great responsibility to assume in a child's education, today.

The ancient Greeks believed that three years old was not too early to begin, and modern dance educators are inclined to agree with them and start dancing in the nursery school.

The pre-school child should be taught in a class devoted to that age and not taught with older children. The problem of the pre-school child in dancing is to give him opportunity for the developmental movements that strengthen the muscles which support and move the body. Stimulus for these movements should be given in happy, playful and artistic motivation. There should be no formal movement technique forced on a child of this age. The natural movements of running, walking, falling, stretching, bending, twisting, hopping and whirling are appropriate to this age (Skipping is a later development). These movements should be motivated

by ideas within the intellectual interest and grasp of the child. For instance, they can play birds, hop around, and using their arms as wings, pretend to fly away. The teacher should have a definite goal in mind for the child to accomplish in posture and movement, but the child should not be burdened with anatomical considerations or movement technique as such. For instance, lightness is one of the movement skills that should be taught from the beginning. The children can play "Bunnies" and hop around, pretend to eat carrots and scamper off into the fields. The teacher can point out that bunnies never make any noise, so the children must be very quiet and light when they hop. The dramatic idea and characterization are the best methods to develop desirable qualities of movement in children of this age.

Being little animals themselves, children of this age are greatly interested in the movements of their pets and love to imitate them. The four legged movement is excellent for young children, as it strengthens the abdominal muscles as well as those of the legs and arms. Simple tumbling stunts like forward and backward somersaults, back bend bridges, and even cartwheels are learned with speed and interest at this age. However, the teacher must be well grounded in child anatomy and psychology to eliminate all strain and all sense of showing off. These stunts must always serve the dramatic interest and demand, and must not be forced on the children artificially.

Rhythm is an important part of the dance education from the very beginning. To move to music is a pleasant form of disciplining one's movement. Good but simple music should be chosen for children. The singing game is very interesting to young child-

ren because it gives motivation for movement. Drums, cymbals, gongs and other percussion instruments are valuable for teaching children rhythm, but melody should not be neglected.

Creative periods should be included from the start. However, the children must be guided and given units of movement with which to create before they are forced to undertake the responsibility for making up dances. For instance, if you suddenly asked this age class to make up a statue dance, nothing would happen. But if you brought a statue of a little child to class and asked if they could all stand as still as she does, you would have a fine motivation for teaching balance and control. Moreover, the children would love it. Each day new statues or just pictures of statues could motivate this valuable exercise. One day, you could suggest to everybody to make up a statue. You would find, however, that only a few children would make an original statue at first, but sooner or later even the less creative would express themselves if given the opportunity often enough. Then still later, a story about a little statue who came to life and danced only when she heard music would motivate further creative activity. The minute the music stopped the children would have to freeze back into a statue. Scarfs, balloons, and other things help to release children and stimulate their creative talents.

The dancing teacher should always keep in mind throughout the entire dance course the goals for which she is working. These are briefly: a balanced development of the postural and movement muscles to insure good posture and unimpeded movement to each child; improvement of the natural movements, e. g. walking, running, jumping, skipping, leaping, whirling, falling, stretching etc; development of movement skills, e. g. accuracy, balance, lightness, endurance, speed, flexibility, ease and rhythm; psychological attitudes of unselfconsciousness, joy in movement, desire and ability to express oneself in movement; knowledge and appreciation of dance art for leisure time activity.

From these simple, fundamental beginnings, the children should progress slowly but surely to larger, more complex, more varied, and expressive move-

ment. Their dance education should dovetail into their other educational experiences. When they study about the Indian, they can learn simple Indian dances. The writer was very much impressed with a fourth grade group in an Atlanta school. The boys recreated the Greek frieze of the Aegina Temple and then came to life and did a Greek Pyrrhic dance.

This brings us to the problem of teaching boys dancing. Up to six years old, boys and girls dance in the same class with joy and profit, but soon after that the teacher has to give masculine motivation to the boys' movements and feminine to the girls, at times separating them so that the boys can do a boy's project, like the Pyrrhic dance, and the girls can work out a feminine motivation. The wise teacher, however, will always bring in projects in which the boys and girls work together, each having their own parts to play. The European folk dances offer splendid material for boy and girl cooperation, especially because in these dances the femininity of the girls and the masculinity of the boys are emphasized.

Boys enjoy dancing just as much as girls and are just as able and artistic about it. The tragedy has been that the dance has been so overfeminized that boys found no suitable place for themselves in the art. Now modern education is keeping boys' interest with fine athletic dances and masculine motivations for their creative dance projects.

In relation to the folk dances of other nations, the wise dance teacher does not forget our own rich dance heritage. American history projects offer excellent motivation for teaching the social dances of our own historic periods—minuet for Revolutionary period, polka for Civil War times, to say nothing of the square dances of a later period.

These boy and girl dances lead naturally to the ballroom dance of today which the children see their parents and older brothers and sisters enjoy. Progressive educators use the ballroom today, not merely as an opportunity to teach a leisure time activity that will last through life, but also to acquaint boys and girls with the customs, procedure, etiquette and correct attitudes of the modern dance party. Most dance educators who are authorities on this aspect of dancing

kittens. If properly taught, with knowledge of anatomy and skill in the technique of the tricks, this training in acrobatics can be a fine education in balance and control of the body. It gives young people great satisfaction to master the tricks, and it can be of great safety value in teaching them to control their body in unusual positions such as they might meet in falling. Care should be taken to motivate these tricks, lest they degenerate into mere showing off.

Oriental dancing should be classed under folk and national forms. Because many of the oriental dances have a philosophical background and motivation beyond children, they are better suited to older students.

Modern dancing is a little difficult to classify. Because it is a contemporary form which has sprung up in the big cities in the last twenty years, it has many different forms. It is of more interest to older high school and college students of big city background. Like all other forms of the dance, in the hands of a capable educator it has its place as a sophisticated, contemporary, modernistic form that stresses special design, intelligent content and modern music accompaniment. Its vigorous movement is especially attractive to boys.

Rhythmic, Natural and Duncan all tend to refer to a type of dancing that features natural expressive movement and rhythms, and avoid all complicated, artificial developments. This, no doubt, is the basis for young children's dance training. However, there is no sound pedagogical reason why children should not progress from the simple to the complex. Children themselves wish to conquer new worlds of movement and should be aided to do so as soon as they are able.

Musical Comedy or Stage Dancing: Adolescents like to put on shows in imitation of the theatre and movies they see. There is no harm in this, and a great deal of exercise and fun. Leaders should try to develop in their students such taste in movement that unpleasantness, vulgarity and suggestiveness will have no appeal. If necessary, suggestive movements should be explained to young people so they will know why they are not appropriate.

Ballroom dancing is the most impor-

tant of all forms of the dance because it is the form people do in life. Correct teaching in this form of the dance is a great aid to social adjustment between the sexes. Jitterbug dancing is the vigorous, youthful expression you find in the adolescent who is bubbling over with vitality and enthusiasm. This vigorous work-out is a good safety valve for adolescent exuberance. With proper music, environment and leadership there is no harm in the jitterbug dance. Vulgarity should be discouraged by developing good taste in students rather than forbidding certain steps and gestures.

All in all, dancing has an important training and inspiration to give each generation. Under proper conditions and trained leadership it has nothing but good to give the youngsters. For the high strung child it is a happy form of release that often turns a problem child into a cooperative one. The mastery of movement often gives the timid child greater selfconfidence, and the opportunity to express himself through his own body, unifies his mental interests and spiritual aspirations with his physical self and, thereby, brings an attractive and satisfying unity to his personality.

Most of the progressive schools throughout the country now include the dance in some form in the curriculum. It is to be hoped that before long every American child will be given the healthful, joyous, developmental experience of a complete dance education.

—L.M.

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See: RHYTHM.

DAYDREAMS. Despite the fact that many psychologists have emphasized the importance of daydreams as a factor in personality, little research has been published in this field during the last ten years. Most of the avail-

able material regarding this type of behavior has come from the writings of clinicians and others dealing first hand with children, rather than from formal studies.

GENERAL CHARACTERISTICS: Psychologists study daydreams as such largely because they are symptoms of personality maladjustment. At least, the presence of daydreams usually prevents wholesome adjustment to life situations. All writers admit, however, that a certain amount of daydreaming is very common and indeed natural. Shaffer (12, p. 187) says: "Phantasy is a normal phase of the imaginative play of childhood." Probably daydreaming of all kinds is indicative of certain personality traits—wishes, ambitions, desires, and the like. But much of the content is very difficult to interpret, and hence is often not used as diagnostic data.

Hurlock (6, p. 408) claims that "daydreaming begins early in childhood, around the third year, . . . reaches its peak early in adolescence and, under normal conditions, begins to decline after that." Young children are very often unable to distinguish between fact and phantasy, which accounts in some degree for the realistic nature of daydreams in early years. Before school age children verbalize their daydreams frankly and openly, but they soon are subjected to cultural inhibitions which force them to keep their thoughts to themselves. According to Curti (2, p. 306), daydreaming (autistic thinking) "is an egotistic type of thought adapted to the needs of the thinker but not directed by the need for communication or other social considerations." The thought process is usually of an irrational nature—the dreamer possesses abilities and characteristics all out of line with his actual ones.

Several writers have attempted to compare day and night dreams. From the point of view of psychoanalytic interpretation there is apparently little difference between the two, but Louttit (9, p. 472) says "Night dreams, unless they are of the nature of night terrors or are somnambulistic, will never interfere with the individual's behavioral adjustment, while daydreams, unless carefully controlled, almost inevitably do."

CONTENT: The purpose of describing

the content of daydreams is partly to aid in determining the underlying causes of the activity. Some workers, however, believe this to be a fruitless procedure so far as generalizations are concerned, since each case is different from all others.

Louttit (9, p. 473) mentions Green's study (4) in which it was shown that the content of children's dreams varies with age: "Between three and ten years of age the dream contents have a major reference to self—the child gets the wanted toy, or mountainous cakes and seas of lemonade are his. In the pre-pubertal period, from ten to fourteen or so, the reference is mainly to a group attitude . . . In this period also there occurs a seriously disturbing sort of phantasy—that of not belonging to one's family." Green (4) further describes four different kinds of daydreams, in all of which the child plays the role of hero (1) feats of skill; (2) saving others, e. g., saving another of the opposite sex from a burning building; (3) grandiose roles, e. g., being a king; (4) performing services for others and then gaining their admiration. Jersild, Markey and Jersild (7) found by questioning children that the content of their daydreams could be classified under thirty-one heads. Amusement and make-believe play was found most frequently for all age groups, followed by commonplace. Topics such as vocations and prestige naturally showed a marked increase with age. Otherwise there were few marked age differences.

Sherman (13, p. 187) differentiates between CASUAL and SYSTEMATIC daydreams. The content of the former is derived mainly from everyday occurrences, but in the latter the same phantasies return again and again, sometimes in different form. The systematic type "probably serve us outlets for repressed conflicts and frustrations regarding important issues." From his work with delinquents Burt (1, p. 356) concludes: "Often the child's fantasies center upon acts prohibited in daily life, and his imagination is tentatively musing on plans for doing some forbidden thing and stratagems for defeating discovery when the deed is done." Hollingworth (5, p. 191) found that "Adolescent daydreams center chiefly around love, achievement

and security." Material concerning "crushes", or emotional attachments for members of the same sex, is commonly found in the daydreams of adolescence. According to McKinney (10, p. 527), people who daydream of improbable events "do not embellish their present existence with imagination. They conversely ignore the present world and build a new one of a foreign character."

Daydreams allow or encourage several psychological processes to take place. Through PROJECTION the child may attribute to his imaginary characters feeling and desires which are really his own. Books, movies, and radio are apt to cause him to IDENTIFY himself with fictitious heroes or heroines. His daydreams also give him ample opportunity to RATIONALIZE many of his unbearable real-life situations, and he may then COMPENSATE by creating a world of his own which he can dominate. If he feels that he can exert authority or demand attention by being sick, injured, even killed, he may develop FEELINGS OF PERSECUTION and imagine himself a martyr. Obviously the content of daydreams can refer to any childhood problem.

UNDESIRABLE ASPECTS. Besides the fact that it is such a great waste of time which otherwise could be turned to wholesome achievement, daydreaming presents a hazard to mental health. The danger centers around confusing reality with phantasy. The child who constantly avoids actual life problems may find it increasingly difficult to bring himself back to reality once he is embarked on his day-dreaming. Authorities point out that this withdrawing type of behavior is an outstanding characteristic of the mental disease known as schizophrenia (q. v.), and for this reason urge early diagnosis and treatment. Resistance is encountered in the child because at first he tends to refuse to relinquish an easy and satisfactory way of solving his problems. The whole process is very apt to form a vicious circle: daydreaming followed by unsuccessful life experiences, then more daydreaming, less success, and so on. The longings and desires created in the daydreams may easily become stronger motivating forces than those in real life situations. This merely serves to intensify feelings of

frustration, because the fantasies are usually so grossly exaggerated that they are impossible of attainment. In daydreams the individual may idealize his chosen vocation, or he may paint a beautiful picture, perhaps of marriage. Unless checked, this kind of thinking leads to a rude awakening when the idealized situation finally is encountered in real life. Daydreams can pave the way to delinquency, as Burt (1) points out, by allowing a child the chance of dwelling on ways of carrying out certain delinquencies. Then when a favorable opportunity presents itself the child has a ready response and hastily carries out his oft dreamed of plans. Kanner (9, p. 295) says of daydreaming: "Too much of it leads to absorption and so engrosses the child's attention that he needs no other sources of satisfaction, renounces the pleasure which others derive from actual external experiences, casts off his duties and responsibilities as clashing with his excursions into an unreal world in which he may shape his destinies at will, shrinks from facing and meeting the minor and major obstacles encountered in the practice of living, avoids the contact of playmates and even the members of the family, and becomes a solitary, self-satisfied, asocial, impractical, disinterested, unpopular, and more or less helpless being."

CAUSES: The specific causes of daydreaming are as numerous as the causes of any undesirable behavior. But there are some situations which give rise rather readily to this activity. The general principle underlying the causation is: daydreaming is an indication of the operation of a dominant motive. In other words, if a child daydreams he NEEDS to do so—in fact can do nothing else in view of his past experience and the present stimulating situation. For one thing he may be bored by what he is asked to do. If he is unable to do ordinary school work, he takes no interest in the class work; if very bright, he already knows the work and turns to his reveries for something exciting. Many teachers actually foster withdrawing behavior by praising the shy child as a "model student." The situation is made worse by teaching methods which force a child to sit still, absorb, and memorize

what somebody else thinks is important for him to learn, instead of stimulating him to work actively on problems which are of direct concern to him. Other causes of daydreaming which have been given are: lack of playmates, repressive measures by those in charge of the child, feelings of inadequacy, sending the child to bed too soon, vividness of mental imagery, sarcasm directed at the child, embarrassing or unpleasant social experiences, worry, guilt feelings, jealousy, inactivity, hero-worship, fatigue which leads to avoidance of active play, and conflicts of all sorts. The psychoanalytic conception of the daydream emphasizes that it is an expression of repressed wishes, desires, or urges.

TREATMENT: As mentioned previously, daydreaming may be merely a symptom of some underlying maladjustment, which means that the child's total personality must be considered in prescribing treatment.

In general, an attempt should be made to motivate, but not force the child to achieve success in meeting real life situations. In school this can be done by having a flexible program which takes account of a child's abilities, interests, and needs. Such a program should also encourage him to realize and accept his weaknesses. It is good practice to keep the child busy at concrete, interesting tasks. Another technique is to engage him often in interesting conversation, get him to express his views about a variety of things. Shaffer (12, p. 188) says: "If children are taught that a proportion of frustrations is always to be expected in life, they will not need to resort to imaginary successes to make up for real or fanciful inferiorities."

Rogers (11, p. 242) advises: "Once the teacher has some notion of the type of phantasy which has meaning to the child, the whole purpose should be to follow this interest and give expression to it in every possible way. It is also healthy to let the boy or girl find out what requirements and training are necessary to become the creature of his dreams." The child can be led to write about his dreams and thus objectify them. By developing a taste for good poetry, fiction, music, art, etc. the child can learn to see

his own imaginings in their proper light. Louttit (9, p. 475) believes that "Talking over the daydreams with the child and then helping him to recognize their unreality is desirable, whereas talking to him about his daydreaming is not." Kanner (8, p. 296) suggests that "It is largely in competitive and group plays that he can best be restored to contact with reality."

Daydreaming can be turned to good advantage if a child uses it as a device to think through plans of achieving worthwhile goals. The point here is that he must be encouraged to carry out his plans rather than merely dream about them. Some points in the psychology of concentration can be explained to older children, with the idea of helping them to think of daydreaming as a cue to actively doing something. Shaffer (12, p. 195) thinks that "normal phantasy has ameliorative and recreational values that may serve desirable ends in adjustment." Also along these positive lines it is well known that daydreams may become the starting point for valuable creative and inventive thinking.—E.W.S.

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DEAFNESS. DEFINITION: The term is used to include three overlapping groups. Roughly these may be distinguished as (a) persons who are deaf from birth or early childhood and whose hearing loss is so great that they could not have learned to talk without special instruction; (b) persons who have become deaf after they have mastered language; (c) the partially deaf, those who can understand by means of hearing although with more or less difficulty. In ordinary usage the term 'deaf' is applied to members of the first group and to some members of the second, 'hard of hearing' to members of the third group and loosely to members of the second. More accurate distinctions are based on degree of hearing as measured by instruments, and age at onset of deafness.

INCIDENCE: There are no reliable statistics to show the full extent of auditory deficiency. The varying degrees and kinds of deafness make it difficult to give a simple definition that can be applied consistently in a broad enumeration like that of the United States Census, and more carefully controlled counts made within limited areas do not give an accurate index that can be used in estimating the amount of deafness in larger groups since it is known that the frequency varies from one geographical and cultural area to another. The American Annals of the Deaf of January 1942 gives 20,367 as the number of children enrolled in schools for the deaf during the preceding year. Beyond this large group of children is a still larger group whose hearing is more or less seriously impaired. The White House Conference in 1930 estimated the total number of children in the United States with impaired hearing, including the deaf, at 3,000,000 (18).

CAUSES OF DEAFNESS: The most important factors in the genesis of deafness are inheritance and disease. The percentage of cases classed as congenitally deaf varies in different studies from 30% to about 80%, the majority giving a figure between 50 and 65 depending on whether they include doubtful cases. The term 'congenitally deaf' does not refer to the cause of deafness but only to the age

of onset. But this group obviously includes many cases in which deafness was inherited and also some in which it was caused by conditions effective either before birth or in early infancy before hearing was observed. A great deal of deafness is known to be caused by diseases of early childhood, among which cerebral meningitis and scarlet fever are the most frequent. Measles, whooping cough, and mumps take their toll, as well as the other illnesses to which children are subject.

It is now known that many cases of deafness in later childhood and adult life may be prevented by effective treatment during the early years. Even a hearing loss too slight to be noticed may indicate a condition that will result in serious deafness. On the whole it may be said that more can be done to check an infection than to restore hearing that is already lost. This means that early detection of hearing loss by otological examination and measurements of hearing acuity are of the utmost importance in the prevention of deafness.

In considering the inheritance of deafness it is important to note that not all deafness acquired after birth is to be thought of as non-hereditary. Many cases of deafness that develop in childhood or later life with or without the complication of a specific illness may also involve an inherited weakness of the auditory apparatus. At the present time it can only be said that every deaf person and every person with deaf relatives may be carrying a defect that will be transmitted to his children. The recognition of this fact is becoming more important because we find in the population of schools for the deaf increasingly large proportions of the congenitally deaf. As medical science gains greater control of the diseases and infections of childhood those who still enter schools for the deaf are to a large extent those with stronger hereditary predispositions in that direction. For example the Tenth Annual Report of the Clarke School for the Deaf in 1877 (13, p. 19) stated that 18% of the pupils admitted during its history were reported by their parents as congenitally deaf. Records of the same school for the ten-year period from 1933 to 1943 show a little over 80% classified in this way. (8)

EFFECTS OF HEARING DEPRIVATION: One may say the greatest deprivations of deafness are indirect. That is, the greatest loss is not the absence of sound for its own sake, not the loss of music and the sounds of nature, but rather the loss of sound as a tool of social intercourse. It is in this sense that deafness delays the intellectual development of the deaf child and seriously handicaps his social relationships.

(a) **EFFECT ON MENTAL DEVELOPMENT:** The deaf child fails to develop speech spontaneously because he is unable to hear other people talk, not as was long believed, because some accompanying physical defect also made him dumb. He can be taught to talk and to understand the speech of others, but the process of acquiring these skills without the help of sound is a relatively slow one and his whole development is delayed on this account. The first psychological studies of the deaf were attempts to use mental tests to measure aspects of this retardation. Pintner, one of the pioneers in this work, gives an excellent survey of these studies (12, pp. 104-130). His conclusion is that the average I. Q. of the deaf is about .90. This result is, however, open to question because none of the tests used with the deaf has served to rate them, even within their own groups, as successfully as tests in general use do hearing children. Tests involving the use of language in any way are at once "achievement tests" when they are used with the deaf since language is one of the subjects that they learn through special instruction in school. And performance tests, which may be given without the use of language, on the whole require abilities that are different from those involved in school work and do not serve as adequate substitutes for them in predicting school success. The so-called non-language test, a pencil and paper test using symbolic forms and non-concrete problems of different sorts probably offers the best approach to the problem of testing the deaf. Pintner designed one such test that has been widely used in comparisons of deaf and hearing children. In practice, however, it has shown low correlations with tests, such as the Binet, and is not in general use. The Chicago Non-Verbal Examination is a second test of this type. It has not yet been used long enough for general re-

sults to be available for validation but within single school groups it has proved useful for ranking children and shows no retardation for the deaf (6, p. 23).

(b) **EDUCATIONAL EFFECTS OF DEAFNESS:** The deaf child starts in school, often at six years of age, to master simple language forms that the hearing child has been "learning" from his cradle. At the age of ten or twelve or fifteen he is still struggling with constructions and concepts that the hearing child uses as his own before he is six. And not only does the deaf child begin later than the hearing child to master language; he has to learn it in a more laborious way. If he learns to speak he must carry out actions of which he himself can never experience the full results. He must shape his organs of speech so as to make certain kinds of sounds, yet the sounds themselves are something that only another person can fully experience or judge. Similarly, lip reading presents a far less exact picture of the speech of others than sound. It requires a greater degree of attention than listening and there are great individual differences in the ability to learn to read the lips well.

Pintner (12, pp. 130-150) has given a comprehensive review of the studies made of the educational retardation of the deaf. An analysis of the results of the New Stanford Achievement Test given over a period of eight years at the Clarke School (5, pp. 25-29) shows a retardation of 15 years at the age of ten increasing with chronological age to a retardation of 6 years at the age of eighteen. Hard of hearing pupils and pupils who became deaf after the age of two years were excluded from this comparison. With the older children there were differences in the amount of retardation in different subjects, the retardation in arithmetic being least, in reading and language usage greatest. Children who were classified as hard of hearing and children who came deaf after the age of two showed a reliable advantage over the other groups. The average scores of twelve children who became deaf after the age of six, therefore after they had mastered standard English, showed no educational retardation.

(c) **SOCIAL EFFECTS OF DEAF-**

NESS: Comparisons of deaf and hearing children in nursery school groups show that even with young children language is an important factor in determining social organization (7, pp. 1-56). In regard to the adjustment of older deaf children and deaf adults a number of studies have been made with personality inventories and questionnaires. The results of different studies have differed but they have tended to picture the deaf as slightly more introvert, less dominant, and less well-adjusted than the hearing. On the whole one can say that none of these tests is entirely valid as applied to the deaf. They all measure adjustment in terms of social intercourse and since ease of social intercourse is itself limited by deafness in a purely physical way, one cannot use it in this case as a criterion or psychological adjustment.

A more qualitative approach is contained in a study based on interviews and letters written by deaf adults in answer to a free questionnaire (7, pp. 59-153). Following are some of the results of this investigation: The most important effect of deafness is the limitation that it imposes on social intercourse. Not only do the deaf feel that they miss a great deal that the hearing enjoy. They often feel that they are excluded because the hearing consider them in some way inferior. This picture of the attitude of the hearing toward them colors their whole outlook on life. A successful adjustment to the handicap involves a clear survey of the situation. One characteristic of deafness is that it does not offer a clearly defined boundary between the things that are still possible for the handicapped person to do and the things that he cannot expect to do. One of the greatest problems in the adjustment of the deaf person is to establish this line for himself. Only in this way can he avoid retreat from what he is able to do in spite of his handicap and at the same time avoid useless struggles and defeats in trying to do the impossible.

The best adjustment is probably made by those who take an active attitude toward the situation and try to bridge the gap which deafness sets between them and the world of hearing people. Some, for example, emphasize the importance of social training and the de-

velopment of special skills that will enable them to contribute more to the groups of which they happen to be part.

THE EDUCATION OF THE DEAF IN THE UNITED STATES: There are 212 schools for the deaf in the United States, 65 of which are public residential schools, 127 public day schools, and 20 denominational and private schools (15). While most of these take children of five or six years in their beginning classes several are now experimenting with nursery school groups. The most successful attempts have been in large cities where the child may live at home and attend school for a few hours each day as the young hearing child does. In some cities visiting teachers work with mothers in their homes for short periods each week or clinics have been established to which mothers may take their children regularly and be taught themselves how to help them at home. For mothers of small deaf children who live away from these centers material is available at the Volta Bureau in Washington, D. C., the headquarters of the American Association to Promote the Teaching of Speech to the Deaf which was founded by Alexander Graham Bell in 1899.

There are two principal methods of teaching the deaf, the manual method by which symbolic hand gestures and finger spelling are used for communication and the oral method according to which the deaf are taught to speak and read the lips. The first school in this country, founded in 1817, used the manual method. Fifty years later two schools were established that developed, independently, the oral method. The history of the education of the deaf in the United States has been marked by controversy between exponents of the two methods which has not entirely disappeared although speech and lip reading are now taught in practically every school in the United States and in some they are used exclusively.

The manual method was originated in France by priests whose aim was to teach the deaf person some form of communication so that he could at least learn the words of the confession and be brought under the protection of the church. Their general assumption was that it was not possible to educate him as a full member of society. The

oral method, which was early used in Germany and in England, was developed for the purpose of bringing the deaf into relationship with their own families and their community groups and aimed at as complete social rehabilitation as possible. The oral schools of this country, which started without direct contact with the European schools, have held to these general aims (4).

The most important advance in the teaching of the deaf in recent years has been the introduction of amplifying instruments made possible by the advent of the radio and other electrical means of transmitting sound. It has long been recognized that children with any amount of residual hearing have better voice quality than those who have no auditory check on their own voices. By means of amplifiers the experience of sound is brought to great numbers of children who earlier were, for all practical purposes, profoundly deaf. The wide-spread use of instruments in schools for the deaf has resulted in better speech throughout and also, what could not have been so definitely predicted, in better lip reading. This means accelerated school progress which is the greatest hope of helping to close the gap that now exists between the educational achievement of deaf and hearing children.

A considerable number of pupils have gone from schools for the deaf to secondary schools, high schools, colleges, and business and vocational schools for the hearing. A study made at the Volta Bureau (16) shows that 709 pupils of schools for the deaf received diplomas from schools for the hearing during the period from 1877 to 1939. No pupil was included in this tabulation unless he was sufficiently deaf to have required special speech instruction during childhood. Of these diplomas 59% were from high schools or junior colleges, 19.7% more from colleges and universities, therefore assuming a high school diploma in addition. The college graduations include four doctors of philosophy, three doctors of dental surgery, and eighteen master's degrees.

There is one college exclusively for the deaf supported by the United States government, Gallaudet College in Washington, D. C.

VOCATIONAL OPPORTUNITIES FOR

THE DEAF: On the whole the deaf are a self-supporting group. They are physically self-sufficient and can do any kind of work in which hearing is not directly required. But many employers hesitate to take them in, in some cases because their handicap in communication makes it inconvenient to work with them, in others because they are afraid, usually without justification, that deaf employees would have more accidents than hearing ones and involve them in greater expense under workmen's compensation laws.

These difficulties are being met, on the one side by the schools for the deaf which give vocational training to their pupils and in some cases have their own vocational placement staff. The American Annals for the Deaf in January 1942 lists 70 different vocations which are taught in schools in the United States, ranging from poultry culture and printing to handicrafts like lace making. For studies of the effectiveness of those programs see Martens' analysis of a nationwide survey which included 19,580 deaf and hard of hearing individuals (11) and Brown's report from the Pennsylvania School for the deaf (2).

From another side the problems of employment of the deaf are now being met through state agencies, some of which work independently and others in co-operation with federal agencies, especially the Federal Bureau of Rehabilitation and the United States Employment Service (14). In 1940 the United States Civil Service Commission listed 80 types of examination for which the deaf were to be considered eligible, thus widening further their possibilities of employment (17)—F.H., G.M.H.

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DELAYED REACTION. A delayed reaction is a response made to a stimulus some time after the stimulus has been removed.

When some stimulus, either external or internal, impinges upon the organism, the organism so stimulated responds. Usually we think of the response as being immediate. Situations exist quite as frequently in which the organism is stimulated but the overt response is not made until some time afterward. In a general life situation, for example, one sees a beautiful automobile in a show window. When one has adequate means to purchase a car, one responds and buys the make of car seen years ago in the show window.

A child busily playing, absorbed in his toys, is called to dinner, given a little time to reorientate his forces of interest will still respond to the first call to dinner without stimulation. There are many such situations in life to which one cannot react immediately. He selects the response which he will make, but does not act until some time later.

Psychologists have experimented with rats, raccoons, cats, dogs, monkeys, and children of different ages to determine the length of time a response to stimulus can be delayed and the relative importance of responding to a stimulus that is not present. W. S. Hunter has experimented with rats. The rat is placed in a release box before three other boxes, one of which contains food. A light is placed above the box containing food. When the rat has learned to associate light with food without error, he is ready for the delayed reaction experiment. The rat is held in the release box while the light is turned on above the box containing food. The light is then turned off, but the rat is not released for a few seconds. It was observed that the rat kept his body pointed toward the stimulus in order to respond correctly and that action could not be delayed for more than five seconds in order to be successful.

Similar experiments have been made with other animals and with children.

Usually it is found that the lower types of animals must keep their bodies oriented toward the stimulus in order to respond correctly after it has been removed. Although it sometimes reduces the reaction time, it has been found that children, monkeys, and sometimes dogs and raccoons can change their bodily positions and still respond correctly. Raccoons have been found to respond correctly after a delay of twenty-five seconds; cats, eighteen seconds, and dogs, three minutes. With children from two to five years old, correct responses have been made after a delay of from one to three days.

Although we cannot know what is going on inside the body of the animal, the delayed reaction experiments would seem to indicate that the lower forms of animals select the correct response to absent stimuli because they set their bodies in the direction of the response and that possibly higher types of animals and children associate the correct response with something outside the body.

The ability to react correctly after a delay is considered as an indication of superior intelligence and an indication of a thought process of some kind existing during the interval of delay. The length of the delay following which a correct response can be made is also indicative. Thus lower animal forms cannot respond at all or only after short intervals of delay. Children "forget" soon as compared with adults. There are of course many other uncontrollable factors involved which influence the length of the delay possible.

—M.L.S.

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DELINQUENCY. See CHILD DELINQUENCY, JUVENILE DELINQUENCY.

DELUSION. Delusions are false beliefs of distinctly pathological significance. According to Bleuler, they are "incor-

rect ideas created not by an accidental insufficiency of logic but out of inner need." They are characterized by two main features: 1. They are convictions which are supported by only meager factual evidence or by no factual evidence whatsoever; 2. they cannot be influenced by logical argument. Delusions are not due to a defect of intelligence, but are expressions of emotional difficulty. In some instances, the various delusional ideas of a person are rather changeable in character and unrelated among themselves. In other instances they are systematized, that is, organized into a logically rather consistent system although built on false premises. Delusions are usually classified according to their content into those of persecution, grandeur, unworthiness, sinfulness, etc.—A.A.

DEPENDENT CHILDREN. The term dependent, in a general sense, is applied to any child who must look to society for support, either because of the death of one or both parents, or because of parental inability to provide him with the necessities of life. A legal distinction usually is made between **DEPENDENT** children, whose parents **CANNOT** provide for them, and **NEGLECTED** children whose parents **WILL NOT** do so. In some states, for example, a dependent child can be transferred to a foster home without the intervention of the Juvenile Court, whereas, a neglected child, under similar circumstances, would be brought before the court on the assumption that he is a potential delinquent. Since both types of children are dependent, such a distinction is not only artificial, but also unfair to the neglected child.

Among the most common causes of child dependency are: illness, death, unemployment, or low earning power of either or both parents; homes broken by death, divorce, or desertion; and parental indifference toward, or rejection of, the child. War is also a major cause of child dependency, and an important activity of the American Legion is caring for dependent children of veterans. In this connection the question of deferring or exempting married men with dependent children from military service is a much-debated current issue.

In the past, the most frequent method of dealing with this problem was to place dependent children in private or public institutions, and to prosecute wilfully neglectful or cruel parents. The more recent trend, influenced by psychology and psychiatry, is to consider the problem as one of social case work. It is recognized that a child's needs do not end with the furnishing of food, clothing, and shelter, but that he must also have affection and emotional security to develop normally. There is no adequate substitute for the home in meeting this latter need, and, therefore, the present tendency in dealing with dependent children is to keep the family intact, if possible. This may be accomplished in part by benefits from Workmen's Compensation laws, or by direct aid to mothers (mothers' pensions), which are now available in practically all states through the co-operation of the Federal Government under the Social Security Act of 1935. Some states still debar unmarried mothers from the benefit of such aid, but the Social Security Act makes no such distinction. If mothers' pensions are large enough, the children can remain in the home, and mothers will not be forced to neglect them by obtaining outside employment. When the pension is insufficient to support the family, and the mother must work in addition, day nurseries have been organized where small children can be cared for properly. If, despite these aids, the family cannot be kept together, the foster home is regarded as the next best solution. In homes where the child is unwanted, or where the alcoholism, immorality, or irresponsibility of parents are such as to be detrimental to his interests, placement in foster homes or institutions may be recommended. Foster homes are generally preferred now, but institutions occasionally may be more suitable if the dependency is to be temporary, and if it is undesirable for the child to become attached to another family. Although institutions are coming to be regarded as a last resort, the majority of dependent and neglected children are still being cared for in this way. Despite their drawbacks, institutions are valuable as centers for observation and research, are helpful in cases where medical treatment is required, or where it is un-

desirable to separate the members of a large family. At present, however, no one method of caring for dependent children will meet all needs adequately and, in the final analysis, the procedure must be adjusted to the individuals concerned.—R.V.M.

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DEVELOPMENT. Development refers to all those changes in a living being which have a definite direction or systematic temporal progression. Such changes need not be improvements; the systematic decay of old age—though even less studied—is as much a part of a person's development as the increases in size and ability which characterize childhood. Sporadic, temporary and erratic changes, however, are not considered as parts of development; rather they are interruptions which distort or deflect the normal course thereof. Social groups and institutions may both display phenomena analogous to those of individual development but until we know much more about both individual and social development we shall do well to treat them separately, though at all times remembering that the individual's group memberships are a factor in his personal growth and vice versa. In what follows we shall be primarily concerned with human development in individuals.

KINDS OF DEVELOPMENT. Changes in a living organism may be quantitative (an increase or decrease in amount) or they may be qualitative (a change in form, in the patterning or relationships of the parts). A few authors speak of the quantitative changes or augmentations as growth, and limit the term development to qualitative changes.

Both theory and common usage speak against such a distinction. Changes in the form of an organism are always at bottom changes in amounts in the several parts or members; on the other hand a uniform proportional increase in all the parts of an organism is never found, so that quantitative growth-changes always involve qualitative form-changes. Neither has the usage been widely adopted which distinguishes development as concerned with the whole organism, growth with specific members or parts. Both popular and technical usage tend to use growth and development synonymously.

It should hardly be necessary, moreover, to say that in modern times no hard-and-fast distinction is made between physical and mental development. If we are to avoid a metaphysical and largely sterile controversy, we shall do well to make distinction primarily in terms of the way in which the growth terms are measured, secondarily in terms of the matrix or context of other changes with which the change in question is articulated. This yields a rough-and-ready classification of growth changes as anatomical (a better term than the more commonly used "physical growth", which implies a misleading philosophy), physiological, and psychological (which includes the social growth of the individual).

HEREDITY AND DEVELOPMENT. The terminology, and hence most of the questions asked, of the relationship between heredity and development, was fixed at a time when genetical problems were ill-conceived. The present writer thus despairs of a consistent use of such a term as "maturation." Originally it meant simply becoming mature. But presently it meant becoming mature as a result of the unfolding of the inner hereditary processes of growth. Now it can hardly be too emphatically stated that no such independent growth processes exist. Development or growth is inherently determined by both genetic and environmental factors. These factors, moreover, must be considered as abstractions and rather misleading ones at that. A thoroughgoing relativism is required: how a person's "heredity" will express itself depends upon the environment, the effect of an environment upon a person's development depends on his heredity.

It is possible, however, to exaggerate this sound principle. After all, the environment has a very large degree of uniformity for all organisms: all which survive have had air, certain nutrients; and in any given species many other environmental elements are common to all. On the other side, there are many genetic determiners common to a large natural group of organisms. The "traits" characterizing a species or variety must be thought of as deriving from genes common to such groups. These "traits" appear unless suppressed by radically abnormal conditions, though the exact form and extent of their development depend markedly upon environmental circumstances. Thus a radical departure from the normal of either heredity or environment is necessary if a bird is not to have two wings; but the strength and even the shape of the wings may be modified by conditions.

The genetic and ecological constants of an entire species are relatively easily discovered, especially where the gross form or morphology of the organism is concerned. Even in the field of behavior we have such constancy of behavior as the migrations of certain fish and bird species. But it is probable that behavior is inherently more plastic or modifiable than structure; and it is certain that it is more difficult to predict for smaller groups than species just what structures or functions will be manifest under any stated conditions. Finally, it is probable that man is the most modifiable of all species.

Great caution is needed, therefore, in supposing that man's development necessarily takes a given direction, let alone that we can predict the rate at which development will proceed. Development proceeds in part as result of innumerable variable factors of climate, feeding, housing, hygiene and cultivated modes of conduct. To distinguish the common elements in the welter is supremely difficult, to be sure they are absent is even more so. Yet to assert that a given line of development is "inevitable" requires that we know that it is not primarily attributable to common elements of physical or cultural environment. When even the size and shape of the skull in later generations can be changed by immigration to America (as Boas proved it is), we

should certainly be cautious of asserting that aggressiveness or acquisitiveness or any other "universal" behavior pattern is natural and inevitable rather than the result of the particular circumstances of life now existing.

DEVELOPMENT AND LEARNING. Within those circumstances, however, "dependable" forms of behavior do develop, and some of these forms are almost impossible to alter. Careful studies of infants show that there is a fairly predictable sequence of development in a number of motor behaviors such as manual control and locomotion. While infants show individual differences in the rate of development, and while the rate may be greatly influenced by training, the order in which the behaviors occur seems to be the same for practically all infants and not subject to modification by any ordinary training procedure. It is tempting to generalize from this to the notion that there is a proper or best sequence in which educational experiences should be presented, but in the absence of further data the temptation should be resisted. There is no substitute for actual trial in determining the best time or manner of teaching.

It is important to note, in any case, that "dependable" growth or development is not synonymous with "unlearned." Nor does it seem useful to draw a fixed line between development and learning, at least not in the field of behavior changes. Previous growth and previous learning are inextricably intertwined as the necessary condition of present change in behavior. If a distinction is to be made, it is that learning is restricted to those cases where the previous experiencing or response of the individual is the primary factor in change. The distinction, however, is clear only in rather extreme cases and is of only minor convenience.

DEVELOPMENT AS DIFFERENTIATION. Since all the higher forms of life begin as a single cell which, as it divides, differentiates—that is, gives rise to cells which differ from the parent cell in structure and function—it cannot be questioned that differentiation lies at the basis of all development. It is not immediately obvious, however, that the concept of differentiation is really applicable to behavior. It is clear enough in the case of anatom-

ical structures where the parent cells actually pass over into and become the filial cells. There is a clear continuity. Behavior, however, is discontinuous. An act occurs and then is done. How is a later act to be conceived as an outgrowth from, or as differentiated out of, a behavior which has passed into the limbo of time? There is, of course, a structural basis for the behavior and that structure is undoubtedly modified as the result of behaving. But to think of behavior differentiation in terms of the structural bases is to involve ourselves in a fog of presently unverifiable speculation and neurological tautology.

Consider a concrete example. It is urged that in the development of the individual fear and anger differentiate out of an earlier, undifferentiated excitement response, just as muscle, nerve and blood cells differentiate from the fertilized ovum with which life begins. To say that the structural basis of fear is actually a differentiation out of the structural basis of excitement is obviously only to postulate something required for a theory—at best we can say, it could be so. Our belief that fear and anger actually are such differentiations must rest on other grounds.

Those grounds can scarcely be the palpable similarity of the behaviors to inspection or introspection—the dispute raised by the Freudians as to whether "infantile sexuality" is or is not similar to adult sexuality should warn us against so subjective a criterion. And indeed on logical grounds, we should not expect similarity; nerve cells, to take a parallel, are not similar, in any relevant sense, to muscle cells.

What we need is clearcut evidence of a genetic continuity—evidence that the primitive and undifferentiated behavior is genuinely a necessary precursor without which the later and more specialized behavior could not occur. We need evidence further that what happens in the life history of the individual as a result of the parent undifferentiated behavior has specific effect upon the alleged "descendent" behavior. Thus if we can establish—as the Freudians believe they have—that certain kinds of experience in the realm of so-called infantile sexuality have specific effects upon adult sex responses, we need not be concerned as to whether the infantile "sexuality" re-

sembles the adult form. Undoubtedly such genetic continuities do exist in the behavior field and are important. Whether the metaphorical label "differentiation" is helpful is more doubtful.

It is especially doubtful, moreover, that the growth changes actually observed, however much they may rest upon cellular differentiation, necessarily take the form of differentiation—that is of increasing specialization. Walking may indeed be an increasing specialization which develops out of vaguer, less specialized movements by a sort of differentiation. But many changes quite obviously consist in a regrouping or integration of elements. Thus examples of differentiation in the development of language may be found, but at the empirical level it is obvious that language growth also consists—indeed chiefly consists—in the addition and integration of new elements.

THE GRADUALNESS OF DEVELOPMENT. Most growth obviously proceeds by small and evenly graded steps so that it seems continuous. In some functions, however, rather sharply marked stages or steps may be distinguished. Both empirical investigation and basic theory suggest, nonetheless, that growth is essentially continuous and that the exceptions are only apparent.

The most important class of abrupt change is that where an outside pressure impinges upon the developmental process. The amputation of a limb obviously makes its growth radically discontinuous; and many less spectacular physical events clearly modify what would otherwise be a smoothly graded process of change. Other environmental impacts, however, especially social pressures, though equally effective in distorting the normal developmental line, are less easily identified and separated from the growth processes upon which they operate. Indeed it is only by an abstraction, though the present writer believes it a useful one, that the growth processes and the environmental pressures can be distinguished at all (Even in such a traumatic episode as an amputation there is a mutual implication of a growth process and of the environmental pressure—there has to be a leg or an arm as well as the surgeon's saw!). Nonetheless, wherever we find a sharp break or change in a growth rate, we should seek diligently for some proportionate

change in the external influences rather than in the internal growth processes themselves.

Alternatively, of course, we may find explanation of sudden change in the coming to notice of many hitherto unnoticed small changes. Many pubertal changes belong in this category. Both popular and technical thinking recognizes that apparently abrupt changes are generally long prepared for in the individual's history.

Indeed, in terms of a general theory of development, the difficulty is in accounting not for continuity but for discontinuity. Growth certainly is based on, even though it be not considered as merely consisting in, the increase (or decrease) in the size or number of cells. A very large number is involved in any noticeable change. Now each of these cells has its own rate of responsiveness to any extra-cellular influence—for example, they absorb nutrients at individually determined rates. The total increase, i. e., the growth change, at any given time will thus be stated by some sort of normal curve. Sharp breaks or changes in the rate of change in development, called modifications by Courtis, must therefore be attributed to the irruption into the organic processes of drastic outside influences.

THE MEASUREMENT OF DEVELOPMENT. Implied in the last statement is the idea that we know the form of the "curve of growth" apart from modifications and can distinguish in the actual observed changes what is "true growth" and what is modification. It must be admitted that only in the largest outline is this possible. For one thing only a highly selected list of structures and functions have received serious attention with a view to the necessary quantitative description of development.

Particularly is it true that very few have been studied by the so-called longitudinal method. In this method the individual is the point of departure. As many of his characteristics as practicable are measured, not once but repeatedly. Development in any function is considered primarily in relation to the individual's own previous status in that function, secondarily in relation to concomitant changes.

In the contrasting and more common procedure (called, not very accurately,

the cross-sectional method) one measures the status of a large number of presumably representative persons in respect to any number of characteristics and averages each of these variables separately. Thus the average height of white American girls at age 10 is given as 54 inches, at age 11 as 56 inches; the difference, 2 inches, is the average growth between 10 and 11.

The emphasis in the cross-sectional method is clearly upon the status of an individual in comparison with his age group—and this is often very important in establishing his social status. But the use of averages obscures the changes in the individual which alone constitute the fact of growth, and the treatment of each variable separately obscures the interconnectedness of growth changes—perhaps one of the most important of developmental phenomena for both theory and practice.

It is obvious, however, that the longitudinal method suffers from certain limitations. It can be applied only to functions or structures which can be measured without killing the organism. It takes patience and persistence; for it implies that one must keep track of and measure the same person year after year. And the requirements that the same person be available for repeated measurements makes it almost impossible to get a random sample.

Unsuspected difficulties, moreover, stand in the road of the apparently simple—if prolonged—task of accumulating the facts. How shall height be measured, for example? Is standing height the "best" measure or should we take sitting height? For the "stem" grows in a different way from the limbs, and the combination of two distinct kinds of growth in a single figure may give us only a hodge-podge.

But this line of thinking opens up the whole problem of the "natural" units or structures to be measured. Shall we, for example, settle upon the development of chest girth as one variable? But this variable depends on a number of factors which may well work in opposite directions: the growth of the chest bones, of the pectoral muscles, of fat tissue. And what allowance shall we make for the fact that there is a relation between height and chest girth? Just where should the

chest be measured and indeed why chest girth instead of waist girth? If such problems are difficult in anatomy where relatively constant and spatially distinct structures are in question, how much more so must they plague the physiologist or the psychologist who must study dynamic functions? Is it useful to study the developmental changes of "digestion" considered as a unified function or must we distinguish and separately study a number of digestive functions? If the latter, how many and which? May we properly plot the development of "intelligence" or must we distinguish the development of many "intelligences?"

One of the best criteria of the sort of "natural" unit here demanded as a basis for measurement is that it develops in a consistent, lawful fashion whereas an assemblage of units or parts of units tends to erratic growth (since the parts of such an assemblage respond discrepantly to growth-promoting influences). But what is consistent and lawful can only be determined by making measurements. We thus seem to be involved in a vicious circle. We may break out of the circle by adopting tentative hypotheses and putting them to the test of facts. But in the study of growth the facts must be patiently gathered over a long period and the penalty in lost effort of an inadequate initial hypothesis is correspondingly great. Thus our treatment of the development of intelligence as measured by the Binet or related tests seems implicitly to have assumed its unitary character (despite many explicit disavowals); two decades of collection of records of mental age change have therefore given us a rather sterile controversy as to the "constancy of the I. Q." but comparatively little as to the nature of intellectual development.

A second difficulty concerns the unit of the measuring scale. Actual measurements are made, of course, in inches or pounds or some equivalent unit, but there is question that these are entirely appropriate for expressing the rate of growth. Consider once more the simple case of height. Is it so clear that an inch added to the height of an infant is the same sort of unit as an inch added to the height of an adolescent? Certainly it has a different significance.

Various proposals have been made. A

growth change may be expressed relative to that which is "normal" or commonly found in others of equal age, this gives us various kinds of physiological, anatomical or psychological "ages". Or a growth change may be expressed as a fraction of the total range of development from conception or some arbitrary zero point to the average level reached at maturity. Each of these methods yields certain unique understandings of growth, each is open to objection. The problem of the measuring scale in which to express development must be regarded as but partially solved.

It follows that equations and curves which attempt to depict the general nature of growth must be regarded as still quite hypothetical. By giving direction to a wide variety of investigations they are fulfilling the purpose of theory; but the facts so far brought to light do not enable us to formulate detailed general laws applying to all development. On the contrary, each general "system" of structures or functions seems to have its own particular pattern or plan of growth. The "laws" governing growth in bones seem different from those governing growth in arithmetic or growth in muscle. Underlying these patterns there may be some "master plan"; if so, its outlines have not yet been clearly laid bare.

This skepticism as to "growth in general" must not blind us to the very considerable amount that we know about certain particular kinds of growth, nor to the very practical knowledge we are beginning to get as to how these several kinds of development interact with each other. It seems to be true that no marked change can take place in one aspect of growth without some influence, often a considerable influence, upon other aspects. Increased knowledge of these interactions, indeed, bids fair to make revolutionary changes in education and in child care.—H.B.E

DISCIPLINE. Discipline is necessary to train the child to curb his excessive demands, to assist him in outgrowing less mature modes of behavior and to direct his energy into acceptable channels. Discipline implies restraint and is necessary when training alone has not been sufficient.

Authority which is firm, reasonable and kind gives the child a sense of security since it defines for him the limits beyond which he may not exert his independence. As the child grows up he needs increasing freedom and independence but these must be limited by his ability to reason and to take responsibility. The child should be encouraged to make his own decisions under guidance and adult assistance. He should be permitted to experiment on his own initiative to the extent that he is intellectually capable, but his conclusions should be reasonably controlled.

The child reared without discipline is insecure, unable to make decisions, uncertain of what is expected of him and ashamed and reproachful of himself when he realizes his inability to conform. Giving the child unrestricted freedom does not make him independent.

Even the one year old child needs discipline. He has little control over his impulses and he does not know what is expected of him. Training is most important but discipline also has its place in avoiding self-injury, in preventing his breaking or destroying objects and in helping him to learn that he is not the center of the stage all the time.

The young child's environment is interesting to him and stimulating. It should therefore be free from too many restrictions. Breakable and valuable objects should be put out of harm's way. Nevertheless the child must learn some consideration for the property of others and should not be permitted to climb on furniture, scratch the varnish, tear books, etc. Through discipline he is taught self-restraint.

The young child must not be expected to assume too much self-control. He should be protected against temptations until he has matured to the point where he may be expected to resist them. His memory is short. He does not know the meaning of honor and trustworthiness, nor does he understand what it means to keep a promise. Situations should not be created which will tempt the child to misbehave; candy and money should not be left about in order to see if the child can be trusted.

Before school age most children are truthful and own up readily to what

they have done. Only later do they learn that they can escape punishment if they are not discovered. Parents should avoid this reaction. It is better to give some sort of credit if the child admits his fault and also to add punishment for lying.

Disciplinary action, in order to justify itself, must serve a useful purpose. It should not be used to make the child obey; nor should it serve as an outlet for the parents' offended sense of dignity nor as an escape for the parents' emotions. The parents' personal feelings should play no part in the application of disciplinary measures. If the child fails or if he behaves badly the parent must not punish him because the parent is ashamed of him or embarrassed by his behavior but only because the punishment will improve the child's mode of conduct. A long range view should be taken of behavior. A sense of perspective in the child is invaluable. Much nagging and scolding can be avoided if there is a plan of training which both parent and child understand.

The child can be taught that life is more pleasant when he behaves. Parents should be consistent in their plan of discipline. Unimportant transgressions may be passed over by merely bringing them to the child's attention and mentioning one's disapproval. Important transgressions should not go unpunished, provided that the child understands that this behavior is not acceptable. Many disciplinary situations need never occur. The parent must be careful not to put the child in an impossible situation insisting that he behave in a certain way or that he apologize for misbehavior. Both may lead not only to deceitfulness but also to resentment against the parent.

Parents should help the adolescent child to understand his place in society. He needs a great deal of encouragement and advice. Minor infractions of rules should be minimized and good behavior and proper attitudes commended. Discussions about general behavior will help the child to learn what is expected of him. The advantage of the child being trusted and not watched by his parents should be stressed. As much freedom should be given as the child can accept. Each year should make a more responsible and independ-

ent individual. Too frequently parents impose new and severe restrictions on the adolescent child who should, instead, be gradually released from them. Discipline during adolescence should be used infrequently and with great care.

Discipline for children of any age should not imply unworthiness of withdrawal of parental love and esteem. There should not be prolonged disapproval as this gives rise to feelings of inadequacy, insecurity and guilt. After the punishment the child should be immediately reinstated in the family.

DISCIPLINARY METHODS: Threats and bribes are without value and often cause the child unnecessary worry and distress.

Punishment involves pain and must, to be effective, cause greater pain than the pleasure gained from the misdemeanor. Punishment should be immediate, inevitable and suited to the child's age, understanding and experience.

In the very young child either a sharp "no" or a quick slap on the hand may be used. These act as conditioning stimuli just as a burn on the hand from the hot radiator conditions the child against touching it again. If the "no" or the slap follows almost automatically upon misbehavior the child will soon learn that this type of conduct always brings unpleasant results and he will inhibit this impulse. Physical punishment, except for the purpose of giving a conditioned response in the young child, has no place as a disciplinary technique.

After 2 or 3 years of age, scolding, isolation and deprivation of privileges are the most effective means of punishment. Long discussions and arguments should not be permitted. Whatever the form of punishment chosen, it should, in most instances, take place immediately and be over promptly. Prolonged punishment causes the child to become resentful and vengeful and to plan means of overriding authority.

With the older and adolescent child deprivation of privilege is the only punishment which has any value. The parent should be careful to use this infrequently and to have it over quickly. The child should not be embarrassed by having to explain to his friends why he is not permitted to attend some party. It is usually unwise to stop the child's attending some much-

looked-forward-to-affair as the adolescent may feel this deprivation as an unduly severe punishment; it is much better not to allow him to go to the movie that night or to have lunch with his older brother the following day.

In all forms of punishment it is important to reinstate the child at once in the family. He should be reassured that he is loved, that he is worthy and that with a little thought and effort on his part punishment will soon be no longer necessary.—R.M.B., H.B.

Bakwin, R. M., and Bakwin, H.: *Psychological Care During Infancy and Childhood*. D. Appleton-Century Co., 1942, Chap. XIX.

DIVORCE EFFECTS. From two thirds to three fourths of the children who find their way into juvenile courts are the product of broken homes. This is often cited to illustrate the harmful effects of divorce on children; but it proves nothing of the sort, since not all homes are broken by divorce and of those that are so broken, no one can say what the effect would have been on the children if the divorce had not occurred.

Homes may be broken by death, desertion, separation, divorce, prolonged illness, life imprisonment, commitment of one partner for mental disease, and in other ways. Many of the studies commonly quoted, including some of the largest and most impressive, such as those of Shaw-McKay and of the White House Conference, make no distinction between types of breakage, thereby losing their value for the present purpose. One can not take for granted that death and divorce produce exactly the same effects on children. To make a better start, one must begin by asking what proportion of all children come from homes broken by divorce; and even this preliminary question is hard to answer.

The statement has often been made that from 20% to 30% of all children come from homes broken by all causes, and that of these homes four fifths have been broken by death, one fifth by divorce. This would mean that 4% or 5% of all children are the offspring of divorce—a percentage (4%) verified in Greater New York by N. Wallen-

stein. By contrast, various studies (cited by Elmer) have shown 10% or 20% of juvenile delinquents to come from homes so broken, while in Detroit (Hirsch) this rose to 26.5%. Thus divorces would contribute from two to five times their quota of delinquents. This corresponds with Kegg's study in Franklin County, Ohio, of which Columbus is the seat: the delinquency rate of children of all (1140) couples who secured divorces during the year 1923 was "three or four times" the rate for other children in the county.

But the amount of divorce varies so greatly in different states that any generalizations may be misleading, as some observations of the American Institute of Family Relations indicate. In Los Angeles county, with a very high divorce rate, not 4% but 20% of all children come from homes broken by divorce. Yet of juvenile delinquency in Whittier State School, a California correctional institution for boys, only 15% were found to come from homes broken by divorce. For some reason, this school appears to get less than its quota. On the other hand, 40% of the feeble-minded patients sterilized in California state institutions come from homes broken by divorce or separation. Turning to superior rather than delinquent groups, only 6% of students in Southern California colleges and universities, and only 5% of the brightest children in the public schools, are the offspring of divorced parents compared with 20% of all children.

On the whole, one can not doubt that children from divorced homes contribute more than their quota to the ranks of delinquents, while they appear less frequently in groups of superior young people. Wallenstein attempted to compare them with normal children on the basis of school achievement and of direct measurement of personality traits, concluding that "public school children coming from homes broken by divorce, separation, and desertion are inferior in many of their character and personality traits to public school children coming from normal homes." In addition, studies of Popenoe, Terman, Burgess-Cottrell and others find children of divorced (or even of unhappily married) parents to be more likely to make failures in their own marriages.

If the children of divorced parents are so likely to display unfavorable traits of personality and character, so likely to become delinquent, so likely to fail in important social adjustments, the question naturally arises, Why? It is sometimes taken for granted that all this is the direct effect of divorce through the consequent educational and economic difficulties, lack of parental control and supervision, divided loyalty (children being made the battleground of parents), difficulty of establishing new loyalties (the step-parent problem), destruction of ideals, lack of emotional security, and so on. One can scarcely doubt that these play a part in many instances, though statistical proof of their importance can scarcely be obtained.

There is another factor for which some statistical support can be offered, namely, the disproportionate number of "only children" in the group—in Los Angeles one third of all. While the "only child" has been found in various studies at the pre-school or primary age to make a fairly good showing, difficulties resulting from persistent egocentricity are likely to appear in later years, giving a 20% handicap in making a success of his own marriage. This "only child" handicap added to the other problems of mental hygiene just enumerated would inevitably lead to trouble later in life for some children from broken homes.

But to find reasons for the inferiority of children from broken homes, one must not stop with the children themselves. All the studies above mentioned, and most others made on this subject, are comparing the personality of children after a divorce with the personality of children IN OTHER HOMES without divorce; thus they are comparing two kinds of parents as well as two kinds of children. How can one know whether divorce actually has anything to do with the differences in the children? Perhaps these differences are consequences of the original differences between the two sets of parents instead. From this point of view, the divorce might be merely an incident; the main cause, or at least an important factor, in the difficulties of the children would be the inferiority of their parents.

As to the reality of this parental inferiority there can be no doubt,

statistically speaking. Divorcees consist of all kinds of people but the average falls below the happily married part of the population in conspicuous ways. Divorcees have only about one half as great an expectation of life, for instance, as do married persons of the same ages; their rate of suicide, of imprisonment for crime, and of commitment for psychosis is two or three times as high as that of married persons of the same ages. With innumerable individual exceptions, divorcees as a group form an inferior selection of the original married population.

N. D. M. Hirsch, beginning with 2,000 delinquents equally divided between boys and girls in the Wayne County Juvenile Court (Detroit, Mich.), traced them back to their homes. Comparing the unbroken homes with those broken by causes other than death, he found such differences as the following:

One parent or both affected by	Unbroken homes	Broken homes
Feeble-mindedness	12.84%	10.91%
Psychosis	5.19	14.03
Syphilis	3.09	13.84
Excessive alcoholism	33.95	58.48
Constitutional		
inferiority	2.47	4.68
Psychopathic personality	3.08	6.82
Criminal record	9.50	24.17
Sexual promiscuity	12.09	66.90
Both parents normal	27.02	1.56

Dr. Hirsch concludes (p 70) that "for the most part juvenile delinquency arises in families that are very heavily tainted with CONSTITUTIONAL psychological deviations." Such parents are most likely to have divorcees as well as to have children who by inheritance and example alike, get a bad start. Beyond this, studies at the American Institute of Family Relations of many hundreds of couples who though not divorced were unhappy in marriage, leave no doubt that they are on the average inferior in personality to the happily married and that some of this inferior personality has a biological foundation.

In the light of the foregoing, it is not easy to answer in a given case the important practical question whether an unhappy marriage should be broken up for the benefit of the children.

While it is admittedly better for a child to grow up in a harmonious home with two parents, it is sometimes argued that he will at least be better off with one parent in peace and harmony than with two parents in perpetual conflict. This raises many further questions: first of all, WHY are the parents in conflict? Then, if the home is broken, will the parent who has the custody of the child remarry? Will all these changes discourage the child or stimulate it, by compensation, to do better than before? It is easy to cite individual favorable instances but they appear to be outnumbered by the unfavorable ones, as Kegg found in his study at Columbus, Ohio. After studying the after-careers of divorced parents as well as of their children, he comments that in general the divorce "had certainly failed to bring happiness to the parents or welfare to their children." Here again, however there is the inevitable lack of control: no one can know what would have happened to these parents and these children without a divorce. The underlying inferiorities, pointed out by Hirsch, might have been so great that they could not prosper in any case.

In short, it must be admitted that the real effects of divorce on children's behavior are virtually unknown. There is no basis for dogmatic assertions as to the desirability, or undesirability, of breaking up a home in order to improve the mental hygiene or behavior of the young people in it. The inferiority of some of the inharmonious parents is so great that, whether or not they stay together, their children will have difficulties. In many other instances the best thing for the children would be an improvement of the personalities and adjustment patterns of their parents; and experience of counsellors throughout the United States in recent years justifies the conclusion that this could often be effected.—P.P.

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DOMINANCE. A tendency to modify and control the behavior of other individuals is common in social animals, and appears in the human child early in the preschool period. In most studies of personality, dominance is contrasted with submission (see Ascendancy-submission), and in this sense dominance ordinarily has a favorable connotation. It includes a capacity for independent decision and creative action as well as a general tendency toward leadership. Unfortunately, this broad use of the term lumps together several varieties of behavior which differ in their origins, their overt manifestations, and their consequence to society.

It makes a great difference whether a child enlists the willing cooperation of another in an activity satisfying to both, or whether he forces the other by blows and threats to yield against his will. The aggressiveness of the bully may be due to inferiority feeling (q. v.) or to some recent frustration (q. v.) The bully's acts in turn are frustrating to the other child who is thereby led to attempt some similar aggression (q. v.) on still weaker victims.

On the other hand, the child who succeeds in enlisting voluntary cooperation is usually high in self-confidence, sociability, and social intelligence, and fosters these traits in his associates. H. H. Anderson applies the term 'integration' to spontaneous, unforced cooperative activity, and the

term 'domination' (q. v.) to efforts at control by force or intimidation.

—M.F.M.

DOMINATION. This term is perhaps preferable to dominance (q. v.) as a designation for efforts to force one's will upon another individual, because dominance has other meanings liable to lead to confusion. In social animals domination has been observed where individuals must compete for a limited supply of water, food, or other essentials. The stronger animal forces the weaker to wait until the appetites of the stronger are satisfied. The tendency to dominate the weak is commonly regarded as instinctive, but some observers maintain that such behavior does not arise except as a result of frustration (q. v.). In human beings, domination of subordinate individuals often serves as an outlet for pent-up aggression (q. v.). Teachers and parents suffering from inferiority feelings and guilt feelings often compensate by excessive domination of their children. Overemphasis upon parental authority frequently masks such an emotional need. In a neurotic mother, domination may take various forms, such as overprotection (q. v.), excessive strictness, nagging, or frequent punishment. The child may react to maternal domination either with excessive submissiveness or with rebellion. In either case, normal growth toward emotional maturity is impaired.

School teachers likewise have personal problems giving rise to an emotional need to dominate. In fact, this need has been known to dictate the choice of a career.

Domination by parents, teachers, siblings, or playmates begets in a child a need either to rebel or to withdraw or to work off repressed aggression by dominating some other child in his turn, thus creating an ever-widening circle of frustration, aggression, and general disharmony.—M.F.M.

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havior in Teachers' Contacts with Children," *Child Development*, 1939, 10, 73-89.

DRAWING. HISTORY: Children's drawings, their content and mode of representation have been subjected to investigation since the eighties of the last century. These early investigators in California and elsewhere (1, 4, 8, 12) drew scholars' attention to the originality of drawings of smaller children and also to characteristics apparently common to all.

Another wave of studies followed during the first decade of the 20th century, when a serious effort was made to understand the beginning and development of children's drawings as well as the underlying motivation and psychology. These studies were conducted on a larger scale (5) and included a number of specialized investigations.

World War I interrupted another phase of research in children's drawings. Based on the theory of the similarity (or even identity) of drawings of small children and those of primitive tribes—and also on the assumption of parallelism between the child's artistic development and the history of art from its primitive stage to the high accomplishments during and after the Renaissance (6)—this research undertook a systematic analysis of thousands of children's drawings, the movement reached its peak in 1913 (7, 11). During the twenties a multitude of research projects were carried on, mainly in Europe (2, 3, 13, 14).

Between 1930 and 1940 there was a noticeable tendency toward greater specialization in research and toward greater concentration on certain aspects of drawing, particularly on children's art appreciation and children's art education. In number as well as in significance the weight of this research shifted definitely to the U. S. A. where the peak of publication was reached around 1936 (9, 10). The subsequent decline of publications may have been due to waning interest in these questions or to the lack of funds to carry on research in these fields.

CONTENT: For the subjects of their pictures younger children choose events in their own lives, in which they themselves play a part: their occupations, such as playing outdoors, gardening,

flying a kite or helping to cook; or their observations of what goes on around them such as mother's wash-day, airplanes, life in the streets or park, a picnic in the country. In many cases the character of the drawings shows wishful thinking and unsatisfied desires such as can be seen in some boys' representations of airplanes, cars or hunting scenes or in girls' drawings of birthday parties and dressed-up ladies. Older children are more inclined to depict what they think about or wish to be, or to present their heroes and heroines as far as they feel the ability to do so. Otherwise they prefer stereotyped landscapes, patterns or still life in which they can avoid to draw what is unlikely to produce satisfactory results.

The objects drawn by smaller children (5/6 to 10/11 years old) are many. Men and women make up the largest percentage, a preference which decreases with increasing age, but is resumed again later, at the age of thirteen or so in the shape of stereotypes of "pretty" girls or "he-men". Next to the interest in people, younger children are interested in the representation of animals, houses and other objects of their immediate surroundings used or seen in daily life, such as eating utensils, furniture, toys, or wagons, cars and trains, trees and flowers.

REPRESENTATION: Children's mode of expression in representing the objects of their drawings and their arrangement in order to form a picture varies from age level to age level. We can differentiate among five phases of development. The development from stage to stage is gradual. Therefore, few drawings will be entirely pertaining to one stage, or not all drawings of an individual child will have the characteristics of one stage only.

1. The first stage—scribble—on the average between ages three and six, represents an object or an idea by means of a directed scribble which is so far removed from any shape that an adult—or child—can neither recognize nor interpret it. Only the immediate interpretation of its creator can reveal its significance.

2. The second stage, the schema, represents people, animals and other objects by means of simplified symbols, the shape of which bears a certain dia-

grammatic resemblance to the real objects. Children work out their schemata step by step. Each part of an object is outlined in the shape of ovals, rounds, near-squares, dots and straight lines (e. g. the human figure) and the parts are assembled piece by piece until all characteristics which are important to the child are represented. There is an additive process in which they enumerate what they remember and in which they proceed as they remember, for their own satisfaction. The schema, after reaching a developmental peak enters an intermediate stage in which its characteristics become mixed with those of the next developmental stage: drawing true to appearance.

3. The intermediate or mixed stage can very well be described as mixed since it combines a number of characteristics of the schema and of the true-to-appearance state. Thus, some objects will be partly schematic and partly true-to-appearance. Picture arrangements will contain wholly schematic objects as well as some definitely true-to-appearance.

4. The true-to-appearance stage is characterized by an endeavor to represent objects as they appear, i. e. in outline, proportion, colors and dimensions which are similar to their actual appearance. Such a drawing does not yet represent the third dimension and therefore gives an impression of flatness. Contrary to the schema, hidden objects remain hidden and on the whole a single point of vantage is maintained.

5. The stage of representation in space is reached when depth and perspective as well as modeling of the round is added to its trueness-to-appearance. Three kinds of spatial representations are used: a. linear perspective in its many steps such as convergence of lines, retaining of the verticals, the eye-line etc., b. modeling of objects by means of shading and foreshortening and c. color perspective by means of colorings for distance such as faded colors in contrast to the brilliancy of the foreground.

The following gives the percentages of children at given developmental stages per age level as they have been found thirty-five years ago (5, 10).

Table of representational development

of children, 6 to 13 years old:

Age	Schema		Mixed		True-to-app.	
	35 ys. at ago pres.	35 ys. at ago pres.	35 ys. at ago pres.	35 ys. at ago pres.	35 ys. at ago pres.	35 ys. at ago pres.
6	98	99	2	1		
7	94	99	6	1		
8	86	97	13	3	1	
9	73	92	23	6	4	2
10	63	71	33	24	4	5
11	41	55	45	35	14	10
12	30	46	45	38	25	16
13	30	39	39	37	31	24

The schematic stage is the one truly representative of childhood. Therefore we are giving here a more detailed description and analysis of its characteristics.

A primitive schema often has nothing more than a head with eyes and mouth to which the legs are directly attached. In the course of evolving and perfecting the schema more is added. The additions do not always seem to agree with adult logic, but in each individual case they are logical from the point of view of the child. The human figure is first represented frontwise: the head is a round with eyes—dots or circles—placed fairly symmetrically under and close to the top outline of the head, with the nose a perpendicular line between, and below a wide horizontal mouth, represented as a single line or as a slit with short cross-lines to indicate the teeth; the body is an oval with a row of buttons and a neckline to indicate a suit or dress; legs are single or double lines hanging down from the oval, similar to pieces of tubing to which the feet are attached as shorter tubes or in the shape of hockey sticks. Arms, limp tubes similar to the legs, hang down from each side of the body and end in a leaf-like hand with two to five or more indentations. The front-view changes later to a profile view in such a fashion that all parts which are more characteristic in side view, such as the nose, are changed earlier than other parts. Most profile views face to the left due to the muscular coordination of right-handers whose wrist and arm movements favor a sweep of lines natural to the representation of that view. Even in a fully developed schematic profile the eye retains the front view and thus often gives the head the appearance of an

Egyptian drawing. The outlines of the body, of the arms and legs, remain the same as in the front view but are given a direction which follows—and strengthens—that of the profile such as marking the buttons on the left side of the body-oval while the flying ribbons of the apron-tie are on the opposite edge of the outline. Both front and profile views are represented in a rigid standing position; sitting or bending schematic figures are exceptional. The sexes are differentiated by means of some attribute such as a pipe, hat or gun for a man, a skirt, curls or purse for the woman.

The schematic animal is similar to a human schema, laid out horizontally. The legs are hung on the lower outline of the body; even the faces of the animals, if turned frontwise, are near-identical to those of people. The profile view is characteristic for animals. At first all animals are worked out alike. When far enough developed, particular attributes characteristic of the mammal, bird or fish are carefully worked out and, still later, individual differences are made such as the long flat bill of the duck as compared to the short pointed one of the chicken.

Schemata for trees and flowers are developed likewise. The schematic tree is inspired morphologically and starts with the trunk as a vertical axis at the bottom of which the roots spread fan-like, while straight horizontal lines—later modified to a slant—represent the branches. From these again, at a 90° angle, later modified, spring shorter lines, the twigs, from which hang individual leaves with stem and midrib, everyone drawn individually so that the contours will not interfere with each other. Another tree schema consists of a near-circular or flame-shaped (poplar) or triangular (spruce) outline of the leafy part with a substantial double line for the trunk. Flower schemata show three distinct types: the button type—a round with a dot in the center, the daisy type, an arrangement of narrow cones or loops forming a circle, and the tulip or bell type. All three schemata are varied. The stem is attached to these blossom schemata as a straight or slightly curved line with a lengthy leaf on one or both sides.

The house, favorite object of the child's picture world, is shown with

one to three or four sides, unfolded side by side, shaped as rectangles, with a triangular roof which fits exactly but without eaves. The windows are set in as small squares. The distances between them or between stories are irregular. The door is never forgotten and usually adorned with a knob. Nearly every house has a chimney, perpendicular to the slant of the roof, out of which curls a black cloud of scribbled smoke.

Schematic drawings are characterized by their lack of correct proportions. The head of a human figure is sometimes as large as the body. The leaves of a tree are gigantic compared to the total size of the tree. Flowers are as large as houses and a person as tall as the church. This raises the question of whether the child is aware of the disproportion he creates and of the correct proportions of the real objects. Experiments have shown that he appraises correctly the proportions of real objects and the relative sizes of objects as compared to each other. On the other hand, his awareness and knowledge of proportions does not imply the necessity to make use of it in his drawings. Drawings are made for the purpose of expressing a thought or an experience and the importance of certain parts of an experience is underlined by exaggerated sizes. Besides, if many details are important, they must be crowded in, e. g. the human head has many details and is more important than some parts of the body, hence its disproportioned size. Another reason for size accentuation of a particular part is the interpretation of an act or a wish by means of stressing the size. An arm, twice the size of another, is often enlarged in this fashion to show its strength or effort in reaching or pulling an object; or it symbolizes the wish for a long arm to reach the impossible. Thus it represents a protest of the child against his own short arms. Conversely uninteresting details are shrunk in size or completely omitted. According to some children's explanation: why draw an arm that is not doing anything?

Movement at the schematic stage is not shown in its actual appearance, e. g. by bending knees or other joints to indicate running. Action or movement are brought out by the situation

and are implied by it. It is further achieved by curly, wavy or rhythmic lines which translate the child's own feeling of movement into the lines he draws. The line itself is in movement whereas the outlined shape remains static.

In their wish to bring out everything important, children draw parts of an object or objects which would be hidden from any spectator, under real circumstances, would not be seen by the observer. This as well as the transparency of objects is another characteristic of the schematic drawing. Objects, invisible behind a fence or inside the house, are drawn as if there were neither fence nor house, because of the fact that they exist and are somewhat related to the subject which is being pictured. Thus houses are sometimes made apparently transparent by showing through their walls the whole family around the dinner table; or people can be seen displaying through their coats all that they wear underneath.

ORGANIZATION: The organization—and orientation—of schematic pictures can be analyzed and interpreted from several angles. It depends on the story the child wishes to convey and the age, that is developmental stage of the child. The preschool child scatters the objects of his drawing over the paper. Since to him a piece of paper has no up or down, right or left, he turns it to suit himself, and the drawn objects may stand on head as compared to others on the same page. In other words, there is no related orientation. Again, at the same stage, the gaps between picture elements are supplemented by oral narrative, so that, for himself, the child achieves a harmonized whole. As orientation proceeds, the dislocations within a unit disappear and the child attempts to include the relation of one unit to another or to several others, e. g. once the parts of one object such as a man are joined correctly he will adjust the relation of this entire figure—a unit—to another part of the picture—another figure or other objects. During the same period, the graphic organization of the picture progresses towards an all-graphic representation. The child uses the position of his objects in the composition and their attributes; lines connect them to indicate their relationship and ac-

tions. Whenever the time element or continuation of a story must be considered, the picture either is broken up into series of pictures or the same person will appear several times in different roles within the same picture. Whereas in the early stages of schematic organization a few single objects were put on the paper far enough apart that they would not interfere with one another, the fully developed schematic organizations also represent crowds or masses of objects. To do so, the child develops a multiple arrangement of single schemata following the reasoning that, for instance, a forest is made up of very many individual trees and hence draws rows upon rows of identical trees; sometimes the child resorts to a sheaflike arrangement. Whereas individuals are drawn with all the attributes that distinguish them from others—for instance, Mrs. X. is drawn with the hairdo, dress or jewelry that the child has observed on her—a crowd of people consists of many of a kind and, represented, the very same schema is repeated over and over.

The schema represents its spatial arrangement by means of organization. Perspective, though recognized and correctly interpreted in other pictures, is unknown in its adult and occidental meaning. A schematic picture in which objects that are far away are drawn smaller than objects that are nearer contains already some elements of the next developmental stage. In the average schematic picture figures and objects are arranged on a standline representing the ground, one might say the earth, since it includes objects in front and in back. The objects are lined up in a row. Above them the paper is left white or empty—the air—and toward the top of the page a strip of blue indicates the sky, a yellow large disk with radial lines, usually placed in a corner, represents the sun. In order to indicate a more intricate spatial arrangement the schematic child places several bands or standlines on top of each other, whereby the bottom of the page designates nearness, the top farness. Such an organization which makes no differentiation of size gives the impression of a pattern. However, the child does not intend it as a pattern. A further development of this same organizational idea makes use

of the observation that not all of an object can be seen in the distance and therefore covers with its first—bottom—band of objects the one above and repeats this toward the top of the page without altering the sizes of objects. Another means of spatial arrangement is the map, where space is laid out as a bird's-eye view and then dotted with the schemata of the objects involved.

ACT OF DRAWING: Children, during the schematic stage, draw by memory. If confronted with a model of some kind, human or an object, the model is inspected for the purpose of acquiring information, but not for the purpose of drawing from it. The drawing is made afterwards without further looking at the model. Thus children who draw their profile figures to the left will continue to do so even if the model from which they are supposed to draw faces the other way, or, if they have not yet reached the profile stage, they will draw a frontview of the profile model and feel assured that they accomplished what they were supposed to do. Since a child's memory is by no means purely visual, but a mixture of perceptions of all senses combined in which touch and kinesthesia play an important part, the visual representation is disturbed by introduction of other factors which, however, must be expressed graphically. The result is a representation of non-visual memories by symbolic lines which settle in the child's mind to a kind of graphic language for visual as well as non-visual experiences.

COLOR: The schematic picture uses color freely. Three stages can be observed. 1. The use of color for the pleasure in and learning about color (manipulative use). This phrase is simultaneous with the scribble and primitive schematic stage. 2. Use of color to match the actual color (local color) of objects. At this stage objects are colored as they "truly" are. Still, a large number of objects escape color observation; they remain shapes of a nondescript color and are colored arbitrarily. Because of the tendency toward "true" color, distant hills will be colored as brightly as the nearby trees or grass. The only modification which is achieved consists in various shades of individual colors, which are the expression of a closer observation of local

color shades. 3. The use of colors as they appear under changing light conditions, that is of hues and tints, is part of a more advanced and not schematic stage of expression.

TECHNIQUE: The technique of the schematic drawing and the media used are closely connected with its decorative and design qualities. The technique—and to a large extent the media used—is prescribed by the process of developing the shapes of schemata. Since every object (and portion of an object) is outlined and set off against other objects and the surroundings, all drawings are ultimately line drawings. Colors are used for the purpose of coloring areas within the outlines, similar to their use in medieval illumination. Even when using large paint brushes children will make first an outline before filling in the space. Therefore, any technique which essentially favors abolition of contours and defined areas is contrary to the developmental laws governing children's drawing activity and is more of an obstacle than an inducement to creative activity. The obviously decorative qualities of children's schemata are produced in several ways. Because of the schematicism and diagrammatic symbols of objects the repetitional elements are enhanced. The accumulation of a number of identical outlines to indicate a mass of objects gives the impression of regularity, sometimes symmetry or near-symmetry and thus underlines again the decorative factors. The more or less brilliant colors which fill out otherwise identical shapes save the composition from monotony. The band arrangement often gives the effect of a ribbon ornament. The decorative qualities which are typical for the schematic stage change in nature or disappear with the outgrowth of the schema.

CHILDREN'S DRAWINGS—A DEVELOPMENTAL PROCESS: It is necessary to add that no child has yet been found who did not go through the various developmental stages in the order described, that is, scribble, schema, mixed stage, etc. The majority of children, if untutored, do not go beyond the schematic or mixed stage and none is able to attain the perspective representation without help from teachers or the study of pictures. However, whether they arrive at the mixed stage or at the perspective

stage, they have to experience the stages previous to the one finally attained. From this and all the particulars involved it seems to follow that the drawing activity—and other art activities—of children is part of their mental growth and of the process of maturation. If it is arrested or entirely omitted something is lacking in children's development, comparable to the omission of some mineral in their diet, necessary for the formation of a stronger bone structure.

Therefore also, aesthetic value-judgments, from the point of view of art achievement, are irrelevant and belong to considerations of an aesthetic-educational nature. An early phase of development is neither superior nor inferior to a later one; that is, one phase is not more desirable than another. Adults who appreciate primitive or peasant art will be more appreciative of the schematic stage, others who are more interested in a successful naturalism will be more interested in later developmental stages.

Since the drawing activities of children are bound up with their general development and dependent on it, the development of drawing may be furthered or enriched, but never arrested; at each stage, it seems to have reached, aesthetically speaking, a peak and the next step must be—again aesthetically speaking—a decline. Plateaus in drawing as in learning must not go on indefinitely since the outcome is regression or disintegration. Unless activities are shifted from drawing to a different mode of expression, e. g. literary expression, active help must be given in order to secure a continuation of graphic development.

The various developmental stages can be interpreted as representing changes in mental attitudes. Some children's memory and imaginings are highly visual and they choose the visual qualities of objects foremost. Children whose thinking is more abstract and verbal trouble themselves far less than visual children with the appearance and likeness of their symbols as compared to the original objects. They repeat their symbols with fewer variations and express action with the help of non-pictorial elements such as dotted lines or written comments. Again, children who are strongly moved emotionally

by some impression emphasize their representation by exaggeration of parts and sizes by using especially brilliant or unusual colorings. The average child will be a mixture of all these factors with the one or other quality predominant. However, in spite of the variety of thought patterns and abilities of expression (e. g. visual or non-visual memory) children of the schematic stage have their own peculiar form of expression. The schematic character of their drawings is due to the intellectual and emotional make-up of these age levels. Visual experiences are not separated from those of sound or smell or movement. It is not the child's intention to present only visual qualities because drawing is visual; therefore, he develops a schematic symbolism. Since he is subject to a developmental order, both representationally and aesthetically, he will accept little or nothing in defiance of this order. He is ready to assimilate anything belonging to it, within his developmental status, and to be directed toward the next substep in his development.

The child's knowledge of the objects which he represents either through observation or imagining is essentially morphological. His drawings show how things are made or grown. He enumerates their parts and sums them up to a whole. At an early stage this enumeration foregoes the order in which parts follow each other; hence misorientation in children's drawings. But the additive process of drawing is maintained all through the schematic stage. Therefore, the sketching of a whole object in sweeping lines and later execution of parts, although natural to adult thinking, is illogical to the child's. This mental attitude limits and characterizes children's art. Thus contourless painting which is the true character of painting is fundamentally contrary to the concept of schemata.

The schematic stage changes to the true-to-appearance stage when the child's mental attitude changes; when the appearance of objects is observed, separated from their emotional and activity content; when the child is not content any more to express himself for his own satisfaction but wishes to reach his own critical standard of pictorial values, e. g. in comparing the likeness of his drawn objects to the

real objects and in comparing his drawings with those of adults and artists. Whereas the schematic child acts in and through his drawings, identifying himself and his experiences with them, the creator of true-to-appearance drawings assigns to himself the role of the objective spectator. His attitude and criticism is that of the adult. It manifests itself during the secondary school period.—B L-H.

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See: ARTISTIC ABILITY.

DREAMS. Freud's theory of dreams is a connecting link between his various conclusions on normal and abnormal mental life. With it as a starting point, he has developed outlooks that have

carried with them revolutionary changes in our knowledge of the structure and function of the mind. The following description serves only as an introduction to the study of Freud's 'Traumdeutung.'

The method Freud used in the investigation of dreams was termed by him Psycho-Analysis. The technique of this method is a complex and intricate matter requiring much practice, patience, and experience.

Dream processes, like other mental processes, have a psychical history. Their origins can be traced psychologically with certainty and precision and they have a legitimate and comprehensive place in the sequence of mental life.

Dreams may be grouped into three categories. (1) We may distinguish those that are throughout both sensible and intelligible (such especially are the dreams of children). (2) There are dreams which are connected and have an evident meaning, but one the content of which is curious and surprising, so that we cannot fit them into the rest of our waking life. (3) The most frequent type of dream, where the mental processes seem disconnected, confused, and senseless. These two latter types of dreams have a quality of strangeness and unreality; they are foreign to other mental experiences of the subject, and cannot be inserted into any place in one's waking thoughts. This sense of foreignness is an illusion due to definite causes, and the mental processes which go to form dreams are in direct continuity with those of waking life.

In tracing the antecedents of dream processes, one makes use of the psycho-analytic method. This consists essentially of the collecting and ordering of the subject's free associations when he attends to any given theme. Thus is abrogated the selective control over incoming thoughts that is exercised by the conscious mind. Through the application of this method to any component part of a dream, mental processes are reached which are of personal significance to the subject. The mental processes are termed the "dream thoughts;" they constitute the "latent content" of the dream in contradistinction to the "manifest content," which is the dream as related by the subject.

The latent content or dream thought is a logical and integral part of the subject's mental life, and contains none of the absurdities and other peculiar features that characterize the manifest content of most dreams. The manifest content is an allegorical expression of the underlying dream thoughts, or latent content. The distortion of dream thoughts into the dream proper takes place according to well-determined psychological laws and for very precise reasons. This distortion is mainly due to "censorship" which imposes an obstruction to becoming conscious of unconscious psychical processes. Before considering the nature of the latent content the following will briefly describe the distorting mechanism by means of which they become transformed into the manifest content.

A dream is a distorted and disguised expression of highly significant psychical processes that have a very definite meaning. In order to appreciate this meaning it is first necessary to translate the manifest content of the dream into its latent content. The mechanisms by means of which the manifest content has been formed from the underlying dream thoughts may be grouped as follows.

Condensation: Every element of the manifest content represents several dream thoughts; it is "over-determined." The material obtained by analysis of a dream is far richer and more extensive than the manifest content. Condensation is easily observed and is the main cause of the sense of foreignness that dreams give us. Condensation is effected in several ways. A figure in a dream may be constituted by the fusion of traits belonging to more than one person, a "composite person." This can occur (a) by the fusion of some traits belonging to one person with some belonging to another, or (b) by making prominent traits common to the two and neglecting those not common to them. The same process frequently occurs with names; thus Freud mentions a dream in which a person seems to be called Norekdal, the name having been formed from the names of two of Ibsen's characters, Nora and Ekdal. The neologism thus produced may refer to things as well as persons. The elements in the manifest content that are especially rich

in associations, the "best-determined" elements in the underlying dream thoughts, form particular points of junction and show the greatest sensorial vividness in the manifest content.

Condensation serves several functions: First, it is the mechanism by means of which similarity, agreement, or identity between two or more elements in the latent content is expressed in the manifest content. The two elements become fused into one, thus forming a new unity. If the fusion has already occurred in the latent content the process is termed "identification;" if it takes place during the construction of the dream itself the process is termed "composition." Identification chiefly concerns itself with persons and places. In the process of identification a person in the dream enters into situations that really are proper to some other person, or behaves in a way characteristic of this other person. In the process of composition the fusion reveals itself in the manifest content by a given person appearing in the dream but bearing the name of a second person, or the figure in the dream may be composed of traits taken some from the first, others from the second person. The resemblance between two persons or places may thus be expressed in the dream by the appearance of a composite person or place built up in the way just mentioned. By this means a considerable economy in presentation is effected. Thus, if two persons both show the sentiments of envy, fear, and malice towards the dreamer, these sentiments may be expressed by the appearance in the manifest content of a composite figure of the two persons. The superficial resemblance presented in the dream thus acts as a cover for a deeper and more significant one, and gives a clue to important constituents of the dream thought. This process may also represent a wish that there were such a resemblance between the two persons, and therefore, the wish that they might be exchanged in their relation to the subject. Secondly, condensation subserves the function of evading the endopsychic censorship. Thus a repressed and unacceptable wish that two persons or places may resemble each other in an important respect or may be interchanged can

be expressed in the manifest content of a dream by presenting insignificant resemblances between the two.

The process of condensation is more diffuse than explained above, for not only is every element in the manifest content connected with several in the latent content, but every element in the latter is connected with several in the former. Associations also exist between different elements of the entire structure of the dream. The full analysis of the dream brings law and order out of what might at first appear to be a tangled network.

Displacement: Analysis of dreams frequently reveals that the psychical intensity of a given element in the manifest content does not correspond to that associated with the element in the latent content. An element that seems to be the central feature of the dream, may represent the least significant of the underlying dream thoughts; conversely, an apparently unessential and transitory feature in the dream may represent the very core of the dream thoughts. The most prominent affects in the dream, hate, anxiety, etc., often accompany elements that represent the least important part of the dream thoughts, whereas dream thoughts powerfully invested with affect may be represented in the manifest content of the dream by elements of feeble affective tone. This is a transvaluation of all values. A transposition of affect has taken place whereby a highly significant idea is replaced by a previously indifferent and unimportant one. The association between the primary and secondary ideas may be a very superficial one. This superficial association is usually a cover for a deeper hidden bond of high affective value. The mechanism of displacement is the cause of most dreams utilizing many indifferent and hardly noticed impressions of the previous day to represent more significant ideas, and transferring the affect to them. Displacement also explains the bizarreness of dreams and the incongruity between the intensity of affect and the intellectual content. A person may in a dream be terrified at an apparently indifferent object, and quite at ease in the presence of what should be alarming danger.

Two special forms of displacement must be mentioned because of their

frequency. "Pars pro toto;" this is the representation of an object or person thought of in the latent content by the device of allowing a part only to appear in the manifest content. The other is representation by means of allusion. Two additional ways in which a latent dream element can be converted into, or replaced by, a manifest element—namely, visual dramatization through regression and symbolism.

The construction of the manifest content out of the latent content is termed the "Dream-work." Two other principal mechanisms are involved in addition to those mentioned. The first of these is "Dramatization." The manifest content of most dreams depicts a situation or an action, so that the dream may resemble a theatrical representation. In a dream, mental processes are dramatized in that the past and future are unrolled before our eyes in a present action; an old wish, for instance, that relates to the future is seen realized in a present situation.

The manifest content of most dreams is predominantly, though not exclusively, of a visual nature. Freud has termed this visual process of the dream, "Regression." It indicates a retrograde movement of abstract mental processes towards their primary perceptions. The network of dream thoughts is in this way resolved into its raw material. Repression is further facilitated by cessation of the forward movement from the sensory to the motor side.

Opposition and contradiction between dream thoughts may be indicated in two ways in the manifest content. 1. Identification; the thoughts can be linked with the idea of exchange, the representing elements may be fused into a unity. 2. Inversion; this subverts the function of distortion. Inversion may concern either space or time.

Last among the dream-making mechanisms is "Secondary Elaboration." This arises from conscious mental processes and not from the underlying dream thoughts. When the dream is apprehended in consciousness, it is treated in the same way as any other perceptive content, i. e., it is not accepted in its unaltered state but is assimilated to pre-existing conceptions. It is thus remodelled so as to bring it into harmony with other conscious mental processes. Secondary elaboration

is closely allied to rationalization.

Dream-work deals only with previously formed processes. The methods used in dream-making are quite foreign to our waking mental life. Obvious contradictions are ignored, highly strained analogies are used, widely different ideas are brought together by the most superficial associations.

It is important to consider the material and sources from which the dream is composed. Dreams show three peculiar features: (1) preference is shown for recent impressions; (2) subordinate and hardly noticed incidents seem to be better remembered than essential and important ones; and (3) there is hypermnnesia for previously forgotten incidents, especially for those of early childhood life.

The first two features being intimately connected will be considered together. All dreams contain mental processes experienced by the dreamer during the last waking interval. All experiences other than those of the previous day are treated in the same way as more ancient memories. The dream-instigator may be (1) a recent significant experience that is directly represented in the manifest content, (2) a recent significant experience that is indirectly represented in the manifest content by the appearance there of an associated indifferent experience, (3) an internal significant process (memory) that is represented in the manifest content by the appearance of an associated, recent, indifferent experience. This recent experience, from the preceding day, that appears directly in the dream, is one either significant in itself or else associated with a recent or old significant one.

The third feature, hypermnnesia, particularly for experiences of early childhood, is of cardinal importance. Early memories, which have been completely forgotten, frequently occur with startling fidelity even in the manifest content. Such forgotten memories appear far more frequently in the latent content of the dream, for the latent content of every dream is connected with mental processes that extend back to early childhood. Somatic stimuli occurring during sleep are not the cause of dreams but are merely woven into its fabric in exactly the same way as any other psychical material. These

somatic stimuli may occasionally serve as the instigator of the dream. These are "comfort-dreams" where the painful stimulus is transformed into a symbol of something pleasurable and is so prevented from disturbing the dreamer.

It is necessary at this point to briefly discuss psychical repression and unconscious mental processes. The term "conscious" in the Freudian sense denotes mental processes of which we are at a given moment conscious; "pre-conscious" denotes mental processes of which we can spontaneously and voluntarily become conscious; and "unconscious" denotes mental processes which the subject cannot spontaneously recall, but which can be reproduced by employing special devices (hypnosis, psychoanalysis). The force which has to be overcome in making unconscious processes conscious is the same which keeps them repressed in the unconscious. This force or resistance is a defensive mechanism which keeps unacceptable mental processes from coming into consciousness.

Freud empirically found an intimate and legitimate relation between the degree of confusion and incomprehensibility present in a given dream and the difficulty the patient experienced in communicating the free associations leading to the dream thoughts. He concluded that the distortion occurring in the dream-making was a result of the resistance that prevented the unconscious dream thoughts from becoming conscious. The resistance is known as the "endopsychic censorship." In the waking state the unconscious processes cannot come to external expression, except under certain abnormal conditions. In sleep, however, the activity of the censorship is diminished, though it is never entirely abrogated. This permits the latent content to reach expression in the form of a dream, but, as it still has to contend with some degree of activity on the part of censorship, it can reach expression only in an indirect way. The distortion in the dream-work is thus a means of evading censorship. The dream is a compromise between dream thought on the one hand and endopsychic censorship on the other, and could not arise at all were it not for a diminished activity of the latter during sleep.

Distortion is not the only way in

which the censorship can be evaded by dream processes. The process of secondary elaboration mentioned above can continue even in the waking state, so that the account of a dream as related directly after waking differs from that related some time later. The change is rigorously determined for, if the two accounts are compared, it will be found that the altered passage concerns what might be called a weak place in the disguise of dream thoughts. The subsequent elaboration by censorship is a means of strengthening the disguise. Instead of subsequently altering this weak place, the censorship may act by interposing doubts in the subject's mind as to the reliability of his memory about it; he may say, "The person in the dream seems to carry such an object, but I am not sure that I haven't imagined that in thinking over the dream." In such cases, one is always safe in accepting the dubiously given point as the most vivid memory; the doubt is only one of the stages in the disguise of underlying dream thoughts.

Censorship may act in the form of an assurance during the dream that "it is only a dream." This occurs because the action of censorship has set in too late, after the dream has already been formed; mental processes which have reached consciousness are partly divested of their significance by the subject treating them lightly as being "only a dream."

The tendency to forget dreams or part of them is an extension of the doubting process mentioned above. This tendency to forget is due to the repressing action of censorship. Frequently, when a patient overcomes resistance during psycho-analytic treatment, he may recall a dream that he had the night before and was unable to recall anything of it. Similarly, during the analysis of a dream, or at a subsequent time, the patient may supply a previously forgotten fragment; this latter fragment invariably corresponds with those dream thoughts that have undergone the most intense repression and, therefore, with those of the greatest significance. Another way of evading censorship is by allowing thoughts to appear in the manifest content in their unaltered form, but their significance will be misunderstood by the subject when he recalls the dream: A person

may dream that he sees his father dead, the actual dream thought being a wish that the father may die. The subject fails to realize that this is a wish, even a repressed one, partly because being horrible it does not occur in consciousness, and partly because the dream is accompanied by an emotion, anxious grief, which is incongruous with the wish. Such dreams are intensely distressing and it may be said that the dread replaces the distorting mechanism of condensation and displacement.

A dream never proceeds from trifles, but only from mental processes that are of the greatest moment and interest to the subject. Dreams never deal with trivialities, although at first sight it may seem to be so. Dream thoughts are processes of the greatest personal interest, and are invariably egocentric. The underlying dream thoughts are always perfectly logical and consistent, but the affect accompanying them is entirely congruous to their nature. We dream at night only about those matters that concern us by day, though the distortion that takes place in dream-making obscures this fact. Lastly, all dreams occurring in a given night arise from the same group of latent dream thoughts though they may present different aspects of them.

There are certain differences between the dreams of a young child and those of an adult. In a child before the age of four, no distortion, or very little, may take place so that the manifest content is often identical with the latent content. The dreams are seen to be logical and co-ordinated. The dream is readily recognized to represent the imaginary fulfilment of an ungratified wish. Freud maintains that this is true of the latent content of all dreams. In the child such an ungratified wish has not yet undergone repression, it is not unacceptable in consciousness; in the adult the wish is not merely one that could not be gratified, but is also unassimilable in consciousness and so must be repressed. All wishes that produce dreams must be either unconscious or else associated with an allied unconscious wish.

Freud arrived at the wish-fulfilment idea of dream from his analysis of dreams of adults psychoneurotics. He found that his patients' symptoms

arose as a compromise between two opposing wishes, one of which was conscious, the other unconscious, and that they allegorically represented imaginary fulfilment of these two wishes. He found that the essential factor in their production was a conflict between the two wish-systems in which the unconscious one was forcibly prevented from becoming conscious; it was repressed.

The dream is the guardian of sleep and its function is to satisfy the activity of unconscious mental processes that otherwise would disturb sleep. In horror dreams the sleeper is awakened because of the intensity of the dream thoughts which have escaped censorship and come into consciousness; awakening thus becomes an added means of protection against undistorted or insufficiently distorted dream thoughts. Freud considers the interpretation of dreams the *VIA REGIA* to the knowledge of the unconscious in in mental life.—S.Z.O.

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DRESSING HABITS. Dressing habits have both developmental and adjustment significance; they are "signals of growth" and symptoms of adjustment.

Dressing behavior depends upon motor coordination and holds a prominent place in developmental scales. The following abilities may be expected in the majority of children at the ages indicated:

At 1½ years of age, child cooperates with dressing and can take off mittens, hat, and socks, and "unzip zippers."

At 2 years, he cooperates more fully in getting dressed, can remove shoes if laces are untied, and wash and dry hands, though not expertly. -

At 3 years, he shows greater interest and ability in undressing, is able to unbutton all front and side buttons, brushes teeth with supervision.

At 4 years, is able to undress and dress himself with little assistance, washes and dries hands and face, brushes teeth.

At 5 years, undresses and dresses himself.

At 6 years, is able to tie shoe laces.

Although the majority of children acquire the ability to dress themselves

by six years of age, some enter kindergarten with dressing difficulties which may interfere with their initial adjustment to school.

Girls are superior to boys in dressing habits. Some girls are efficient at dressing themselves as early as two or three years and enjoy the process of dressing and undressing. Gesell attributes this superiority to better motor coordination and "especially a more flexible rotation at the wrist."

The sympathy and skill with which the child is taught the routines related to dressing are factors in his emotional adjustment. If he acquires the necessary dressing habits easily and without undue attention directed to clothing, he is freed from stored-up resentment and hostility and a sense of over-anxiety or inadequacy in relation to this area of his life.

Retardation in dressing behavior has diagnostic significance. It may indicate general slowness in learning ability. It is not necessarily related to emotional dependence. In fact, Gesell states that the emotionally dependent child is not as a rule dependent upon the mother in dressing but, at an early age, tends to show marked independence in this respect.

Parents should guard against two

extremes—(1) expecting the child to dress himself too early and (2) making him dependent upon their help long after he is able to manage buttons and shoes by himself. During the second year the baby should have practice in learning to dress himself whenever he shows readiness for any of the processes. Beginning with the simplest process of pulling off clothing and putting arms and legs through the proper openings, he can progress to buttoning, tying shoelaces, and eventually putting on the difficult leggings and other outdoor clothing.

During adolescence dressing behavior is often more indicative of group than of individual standards, although important deviations from the group patterns occur. Clothing is used as a means of gaining prestige, attracting the attention of the opposite sex, gaining status with contemporaries, in short, as a means of making adolescent social adjustments.

—R.S.

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E

EATING PROBLEMS. See **FEEDING PROBLEMS.**

EDUCATION. There was a time when education meant schooling; and schooling was, unfortunately, for the select few. Education, in this sense, began at the age of six or even later and continued supposedly only until the academic period of life was over. Whatever was learned in the early years was a question of parental authority which required no social supervision and called for little knowledge. The first years of the child's life were not considered particularly important educationally, the prevailing assumption being that the infant cannot learn much and whatever he learns will be forgotten anyway. But during the last few decades it became gradually obvious that the early experiences, forgotten as they are likely to be, exert a very strong influence upon the formation of the child's character and personality. It is at the dawn of life rather than during school days that the question is being decided whether the child will grow adjusted or maladjusted to his social environment, an asset or liability to his relatives and community, a good citizen or a criminal—with all the gradations between these extremes. As a result of this new insight, more and more people began to regard schooling as a part of the vaster process of education, which begins at birth and continues without interruption practically to the threshold of death. The persons involved in this process, in addition to the child himself, are not only teachers, but also parents, relatives, friends, chance acquaintances—in fact, everybody who in one way or another exerts some influence upon the child. In the light of

these ideas, education began to be defined, in John Dewey's words (2), as "constant reorganizing and reconstruction of experience" or even as everything that contributes to the modification of human nature, excluding of course maturation, disease, accidents, and the like. The definition is, however, entirely too broad. Surely, there is some incongruity in declaring that a child may owe complexes, neuroses, or criminal tendencies to 'education'. Most people understand by education a positive rather than a negative contribution to the child's development. Though it is possible to say that wrong education or the lack of education is responsible for the child's faults of character, anti-social inclinations, excessive selfishness, or maladjustment, the word 'education' is generally used in its constructive sense.

What then is education? From the standpoint of personal interests, it is a means of bringing out and harmoniously developing to as high a degree as possible the child's physical, emotional, moral, aesthetic, and intellectual capabilities so as to increase his chances for attaining happiness and success, not only in childhood but also in adult life. This personal consideration must be evidently adjusted to the realities of society. Hence, from the standpoint of social interests, education may be defined as a process of cultivation of social-mindedness, cooperativeness, industriousness, reliability, honesty as well as useful skills and knowledge—of everything that adds to the values of culture and civilization.

If we keep the above considerations in mind, it will be easy for us to comprehend the process of education in its bearing upon child guidance. Every parent and teacher cannot help but approach the problem from the chrono-

logical point of view, for the simple reason that the child, as he grows and matures, calls for continual and progressive change of educational approach. Each age presents different opportunities for guidance; and each age is an outgrowth of the child's preceding stage of physical and mental development. It is impossible to describe here all the minute steps, beginning at birth and continuing steadily to the period of adolescence and beyond, in the education of the typical child, to say nothing of exceptions. Rather, we shall examine the problem under three headings, namely:

- (I) Home education;
- (II) Street education; and
- (III) School education.

I. HOME EDUCATION. Education, in all of its forms, is a transaction involving more than one person. This is particularly true of home education, where not only the child's capabilities, but also the parents' personality is of decisive importance. If the parents are to be successful in their undertaking, they must, in addition to taking care of the child's health and bodily needs, provide him with a wholesome psychological environment. This implies:

(A) Love. The child responds to love in his own growing way. At first, it means to him mainly the timely satisfaction of his physiological needs. When dissatisfied, he notifies the parents clearly, unmistakably, when continually neglected, he develops the attitude of being rejected. He cannot help but be dependent on his parents: love is a question of security for him. But by and by love becomes an opportunity or a means of securing the realization of his desires, whether they be urgent or trifling. It is at this stage that parental love becomes dangerous to him as overprotection or pampering. If parents continue to serve every whim of his, he will learn to depend on them, but what he actually needs is an increasing margin of self-dependence; he may form a high standard of expectation with regard to the mode of living and his place among others and is bound to get a serious jolt, with possibly irreparable consequences, when confronted subsequently with other people than parents and with other circumstances than those of his home. The excess of love is, in brief, productive

of maladjustment and neuroses.

(B) Consistency. Every healthy and normal child is eager to learn and to get adjusted to his environment. But if the parents do not agree between themselves—which is bound to happen if they dislike each other—or if the mother or the father (or both) are emotionally unstable, approving of an action at one time and disapproving of a similar action at another, the child is perplexed, uncertain, insecure. He is not yet capable of making up his own mind as to what is right and wrong; and the parents, by their differences and moods, fail to come to his assistance and thus frustrate him. Being imitative by nature and necessity, he will find little in his parents to imitate consistently; and their instability is likely to be reflected in his own character.

(C) Co-operation. Beginning with the second year, the child requires a lot of co-operation, especially on the part of the mother. He has to be helped and stimulated in walking and talking; then he needs a partner, who is also an intelligent guide, in play activities; he has to be instructed in the use of toilet facilities, in the formation of eating habits, in getting gradually dressed by himself. Then he wants his parents to tell him again and again his favorite tale, to listen sympathetically to the story of his achievements and exploits. As years go by, the parents' discriminative advice, example and co-operation determine his tastes and preferences, influence his moral views, direct the course of his activities. If given little attention, the child will be helpless, especially at an early age, and will fail to develop his latent capabilities and socially desirable traits.

(D) Understanding. Many men and women still believe that they are qualified to be good parents by the mere fact of having given birth to a child. Nothing is farther from truth. Human ability to procreate does not add a single iota to people's understanding of their children or to the ability to bring them up. That understanding is acquired only through love, observation, knowledge. The knowledge people need in the home education of children is not formal. Courses, lectures, books and professional advice are quite helpful, of course; but this information

must be blended with practical experience and insight grown out of systematic observation, loving care, and familiarity with their own child rather than with educational principles. Only if the parents understand their own child, in his growth and changes, can they fruitfully utilize the theoretical information acquired from a variety of sources.

In the families where there are several children, another human element intervenes: the psychological relations among the siblings. Unless the first child is mentally prepared to share with other children the parents' affection and attention, the arrival of a new baby is bound to be experienced by him as a shock and privation; as a result, there arises the phenomenon of sibling rivalry. It is particularly painful when the first born has been pampered, assured by every action and manifestation of feeling that his wishes and whims rule the household. The only sound measure of preventing the complication, in this connection, is to love and take care of the child in such a manner that the new baby will not affect his life in too marked a way.

Let us turn now to the child himself. All the efforts as well as love, consistency, co-operation, and understanding on the parents' part will not make a genius out of a moron. Home education must always be thoroughly adjusted to the child's abilities and inclinations, as they manifest themselves in the normal succession of maturation. At birth, the child's behavior is characterized only by instinctive tendencies and drives. But almost at once he begins to get conditioned in an emotional way. His desires can become attached, in the course of time, almost to anything and satisfied in many different ways. As Plato and Aristotle insisted, however, children should be trained to feel pleasure and pain with regard to right things. Indeed, one of the central aims of education in general, especially during its early stages, is to condition the child's desires with a foresight of later consequences. There will be no need for punishment or psychological correction, if the child is wisely taught from the very beginning what to desire and what to strive for. Properly guided, he may be led to love the good, beautiful and true. Improperly influ-

enced, he will become attracted to the selfish, vulgar and superficial. A little knowledge and some observation will help the parents a great deal in discovering exactly what is to be done. But they must also know that the process of conditioning requires repetition and exercise, especially when it is connected with maturation; for instance, such a simple activity as reaching may have to be encouraged by presenting the infant with suitable opportunities.

Obviously enough, each activity to be mastered belongs to some particular age. What is difficult for a child of three may be easy for one of four. The best procedure in training is to make each task sufficiently easy at first (but not too easy) to enable the child to achieve success and then to make it a little more difficult (5). It is also well to remember that the life of childhood is long enough; there is no reason for hurry. There is no tragedy in the fact that Johnny cannot as yet lace his shoes, while Mary, a neighbor's daughter of the same age, has been able to do it for several months. Precocity or premature learning, important as it may be as indicative of a high I Q., is not without dangers; for, if improperly handled, such precocious children may easily fail to get adjusted to other children of their own age or even become 'problems'. What is important, is to meet every normal inclination of the child with co-operation, by giving him an opportunity to develop his capabilities and the sense of achievement.

As the child grows, the problems of home education naturally change. There comes finally a time when the child's environment tends to expand, by introducing into it elements from beyond the horizon of the immediate family. In other words, home education tends to be supplemented by what we shall call here "street education." The parents must, of course, be well prepared for this normal transition and show or feel no stubborn opposition to it.

STREET EDUCATION. We use the term in a broad technical sense to designate all the influences coming from outside the home and the school. It represents, therefore, a cross-section of real life, to a much greater extent than anything happening at home or in the

school. It reveals competition and cooperation, enmity and friendship, temptation and discouragement, work and play, nobility and corruption—all the motley elements of the surrounding world. To protect the child, when he reaches the age of street education, from its influences is equivalent to the stifling of the child's natural curiosity or even to an escape from reality; such a behavior does not speak well of the parents' prudence and does not do any good to the child. However, it is well to remember that the child does not have to be exposed completely to the chance influences of the outside world. That street education represents early contacts of the child with social reality is undeniable; but, in a sense, it is merely a rehearsal of actual living. The influence of the home remains, and should remain, strong. A certain amount of selection should be used by the parents in this regard, for the simple reason that the child's first contacts don't have to be necessarily with the worst and harshest aspects of the world. The process of street education is gradual and, to a degree, controllable.

What is street education, more precisely? It includes, first of all, contacts with persons visiting the child's home, namely, relatives, friends of the family, neighbors, or persons who are met in the vicinity of the home, such as boys and girls living in the same or adjoining block. Most of them manifest attitudes considerably different from those of the family, not only because they have different personality make-up, economic status, religious beliefs, etc., but also because they are treating the child as a human being, one of countless children. Instead of the atmosphere of the family 'in-group', to use a sociological term, the child finds in his outside contacts the atmosphere of indifferent social relations, where each person, child or adult, has no more claim for attention than the next one. Only a spoiled child will respond to this situation with disappointment and frustration. A normal child is too eager to get acquainted with the wider world to worry about the fact that other men, women and children treat him as one of many children. This is, indeed, a good initiation to the cold and indifferent world, with a bit of affection

here and there and also with some hatred, envy, cruelty, and meanness.

Out of this variety of human beings the child usually selects—increasingly with age—a few persons, mainly children of his own age, with whom to associate more intimately. That is how he builds his early friendships which the parents should welcome, unless the friends be a particularly unwise choice (and children, sensitive as they may be, are not wise). Later on, with the expansion of social interests, it may be a gang; boys participate in them at about the age of ten to sixteen, the average being thirteen.

The influences coming from adults, whether visitors or neighbors, introduce another element of street education. The child is very impressionable and observant. A visit to a grocery store, monetary transactions, the sight of policemen or soldiers, passing workers of every sort, the mailman, the milkman—all these contacts and many more constitute a vital and normal phase of the child's mental development. A trip to the country, with the accompanying change of scenery and people, is always a thrilling experience in the child's life. The more such experiences the better for the child, provided their very frequency does not become monotonous.

The movie theatre and the radio are additional elements of what we call street education. They reveal a rich panorama of life, with its sports, politics, war news, advertising, which the child cannot help but notice, even if his primary interest lies in children's programs. Adult ways of speech, people's actions are, consequently, imitated whenever they strike the child's fancy.

All such contacts are good for the child; and if something unsuitable for him happens to reach his attention, the proper policy on the parents' part is not to misrepresent or hide reality, but to interpret it truly, frankly and wisely. Evasion, concealment and lying—they are discerned by children more frequently than the adults suspect—are more harmful in education than the sordid truth itself. No parent should underestimate the value of street education, with its blunt realism and genuine people, unless he wants to cultivate a hot-house flower of a child. The ignorance of life is often a greater

such as curiosity, pride, respect, admiration, devotion, sympathy, ambition, vanity, shame. "Give a youth," says W. S. Learned (6), "ideas that to him are big enough and important enough, and you can, with proper guidance, marshal behind them all the emotional resources and moral qualities of his nature. Without ideas that, to him at least, seem big and important, morale vanishes in education, as everywhere else."

The correlation between scholastic success (not necessarily in terms of grades) and strong and enduring incentives seems to be very high indeed. All authorities now agree that discipline as sheer compulsion is pedagogically worthless. School education succeeds only when the pupil's full cooperation is aroused. As M. F. Guyer puts it (4), "The student's best training will always be the self-training he gets in unearthing facts for himself. . . Every student should get this engraved in the forefront of his mind The only fellow who can do him much good—is himself!" The student may know it, but the teacher should know and practise this valuable rule, by adjusting to it the entire instruction. To put the same thing in other words (7), "If a child or anybody else, for that matter—is himself really interested in a certain subject, for self-felt purposes of his own, he will, if given half a chance, learn about it, learn easily and effectively and without external compulsion, and remember what he learns with accuracy and fulness for a long time. On the contrary, if a child—or anybody else—is set to learn something in which he himself is not interested, in which he sees no use for his own self-felt purposes, he learns it badly—slowly, inaccurately, incompletely—and forgets it afterward with a really astonishing celerity and totality." Therefore, interest in learning is as important for its assimilation as gastric juice is for the digestion of food. It stimulates imagination, it leads to insight and foresight, it fertilizes information.

It is necessary to concede, however, that school education as we observe it often falls short by a long margin of the consistent practice of these sound psychological principles. There are many reasons for that; one of them was mentioned long ago by Thomas Carlyle exclaiming in one of his books:

"How can he teach who has no live coal within him, but is all burnt out to a grammatical cinder!"—R.B.W.

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THE "EGO." The original tripartite structure of mental life, namely Ucs. (Unconscious), Prs. (Preconscious), Cs. (Conscious), later on in the development of Psychoanalysis was paralleled by an other tripartite division of mind into "Id", "Ego" and "Super-Ego". The latter formulation does not permit as clear-cut a differentiation between its parts as did the former, since the manifestations of mental life reflect in some degree all its components. The "Ego" in Freudian Psychology is conceived as an outgrowth of the "Id" and is originally not clearly differentiated from it. As growth proceeds, the Ego (which might for purposes of clarity be taken as the visible, tangible self with which we are familiar in every-day life) through the acquisition of knowledge, experience, and techniques of adjustment to reality, assumes the position of intermediary between the strivings of the "Id" and the demands of reality, exercising on the one hand a selective and inhibitory influence upon the former and a mitigating influence upon the counter-demands and counter-pressures which the world of reality exerts upon the individual. It is thus the great "compromiser" in the drama of life which, according to Freud, consists of an "interplay of reciprocally urging and checking forces". As the third division, the Super-Ego, develops, these relationships become considerably modified. But the "Ego" of necessity remains the two-way avenue of access to the

reservoir of human striving on the one hand and the possibility of realization of these strivings in the world of reality on the other hand. In the final analysis it might be said that whatever the exact nature of its composition it is the strength or weakness of the "Ego", the quality of its state of integration which determines the issues of life insofar as life is self-directed. Also in the final analysis, the central goal of therapeutic endeavor is the "strengthening of the Ego". The vicissitudes to which "Ego" development is subject, either because of its constitutional endowment or the nature and quality of its experiences, are clearly discernible in the various forms of mental or psychological disorder. It should be added that from a psychoanalytic point of view the most important of its experiences is its record of past object choices. It thus might be said to be, among other things, the precipitate of abandoned object-cathexes, and is formed to a great extent out of identifications which take the places of abandoned cathexes.—B.G.

EGOISM. Narrowly interpreted, the term stands for selfishness, or the conduct based on the ruthless promotion of self-interest commonly at the expense of other persons' welfare. Broadly interpreted, it stands for the normal attitude in which personal interests come first. In this latter sense, all children, especially the younger ones, are definitely egoistic; if they lack consideration and tact, it is because they have not yet learned to appreciate the feelings of others.

See: ANTI-SOCIAL BEHAVIOR, INSTINCT, THINKING.

EIDETIC IMAGERY. Eidetic (eidōs—picture) persons are those whose mental images are characterized by exceptional perceptual clearness and vividness. Subjectively, eidetic images resemble hallucinations, although they are not to be regarded as pathological phenomena. One tests for the presence of eidetic imagery usually in the following way: The subject is allowed to observe for about twenty seconds a colored picture which contains many

details. A few seconds later a markedly eidetic person will "see" the picture with closed eyes or even with open eyes and will be able to describe many more details than would be possible with the aid of ordinary memory.

These phenomena were occasionally mentioned in the older literature (Mueller, J., Gothe, Purkinje, Fechner, etc.), but were first described in detail by Urbantschitsch in 1907. Ten years later E. R. Jaensch and his associates began systematically to study these phenomena. Jaensch interprets eidetic imagery in a genetic way. According to him, in the young child there is no differentiation between perception, memory image and after-image. Eidetic individuals are—according to this hypothesis—those in whom this childhood characteristic persists into later years.

The proportion of eidetic persons among children and adolescents is usually given as somewhere between 40 to 60% if borderline cases are included, or about half as high if only pronounced cases are regarded. Eidetic imagery is most common during the year or two preceding puberty and is somewhat more common in girls than in boys. After adolescence it is rather rare. Eidetic imagery does not correlate with intelligence except that it seems to be unusually frequent among feebleminded children.

The study of eidetic phenomena by Jaensch and his associates soon led to a rather complicated theory of personality types (See: Types).—A.A.

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EMOTIONAL PROBLEMS. Emotional Response: Not all the problems of childhood are emotional; nor is every emotion an indication of the presence of a problem—at least in the social sense. An "emotional problem" arises when a child is faced with a situation for which he has no adequate response, but to which he nevertheless does

respond in a disorganized, ineffectual, and usually socially undesirable manner. An emotional response arises, as does any other, only in the presence of some force. Therefore many psychologists have stressed the factor of frustration, thwarting, and conflict in the arousal of emotional states. But emotions can also be habitual, far removed in time and space from their original stimulus. The process of conditioning is frequently given as an explanation of the spreading of emotional reaction from one stimulus to another with which it has been fortuitously associated. The resulting effect is sometimes realized by an adult individual, but probably most children are totally unaware of what has happened. The picture is further complicated by the fact that many of the internal behaviors which accompany an emotional experience are in themselves subliminal, i. e., they lack sufficient organization to produce a total response which would be above the threshold of awareness. There is good reason to believe that such "unconscious" reactions then become effective stimuli for the evoking of the emotional response with which they were formerly linked. The emotional response itself may or may not be overt. If implicit, it may or may not be attended to, depending upon the momentary total organization of the organism. The whole process is probably more subtle and pervasive than textbooks lead one to think. Also, it has an "ongoingness" which must be recognized in any dynamic concept of the emotional life. Feelings, attitudes, fears, anxieties, likes, etc. intermingle with—actually become part of—almost all responses which are characterized as primarily "intellectual". If then to this delicate situation is added the fact that children, especially young children, are not equipped to verbalize many of their emotional responses, it is clear that the stimuli capable of creating "emotional problems" are legion.

INDIVIDUAL DIFFERENCES IN THE EMOTIONAL RESPONSE: Clinical data as well as casual observations show strikingly that the situation which brings forth an emotional outburst in one child is passed off lightly by another. Such differences are noticeable from birth on, and this fact has caused

speculation regarding the inheritance of emotionality. The results from animal studies show clearly that differences in "temperament" are inherited. But critical data on humans are lacking. One study (8) showed that the correlations between parents' scores on a personality inventory and infants' bodily activity scores in response to several "emotion-producing" stimuli were positive but very low.

There is on the other hand abundant evidence that individual differences in emotional responses are produced by training. To begin with, the differences evident among newborn infants are reacted to in various ways by adults. The calm, "good" baby is pronounced "sweet", and is treated accordingly. The active, "irritable" infant is scolded, neglected and later suppressed in one way or another. As time goes on this type of interaction is repeated and becomes part of the child's emotional equipment. Thus it is that the child's emotional development cannot be considered apart from the reactions of those with whom he comes in contact. And since they have such a great influence on the child's early development, the personalities of the parents must be investigated in any study of individual differences among children.

Not only does the child react to good or poor handling by his parents—he also imitates their ways of meeting life problems, especially in the earlier years. All kinds of behavior "run in families"—way of speaking, tastes in food, various mannerisms, political attitudes, etc. Similarly, emotional behavior can be and often is learned by children from others living in the home, so that differences among parents are one important factor helping to account for emotional differences among the children. Another is the marked effect a single experience can have on an individual's emotional development. Clinical evidence abounds with instances of the lasting influence of early childhood fears resulting from a particular episode. The general principle here is that, if conditions within and without the organism are "right", tremendous and long lasting effects all out of proportion to the apparent strength of the stimulus can be brought about. On a less dramatic scale, the foregoing principle insures that the

very complexity of daily life will produce marked individual differences in emotional responses.

Despite the justifiable emphasis placed upon individual differences, social psychologists give an important place to cultural influences which tend to produce a certain commonality of emotional behavior. For instance, it is difficult for children reared in an American community to escape the anxieties and occasional joys which are inherent in a highly competitive society. Again, most children in a western culture respond emotionally to parental attention, and a high value is placed upon the love of a parent for his child. Mores affecting the child's behavior under authority, his psychological weaning, his moral behavior—all these and other cultural factors play a large part in the formation of emotional reactions.

THE MEASUREMENT OF EMOTION. Almost any of the so-called "personality tests" (q. v.) may in one sense be considered tests of emotionality, hence they will merely be mentioned here. Tests of the inventory or questionnaire type have a limited use with children. Most of them are prepared for use with children who are of at least fourth grade reading ability, which means that many of the very children about whom information is needed cannot read the tests. However, with junior and senior high school students paper-and-pencil tests can be used to good advantage, provided proper rapport is first established between children and examiner. Various physiological tests have been used, particularly in laboratory studies of emotion (7), but most of these are not practicable to apply in the usual efforts to help children with emotional problems. More promising are the various tests coming to be known as **PROJECTIVE TECHNIQUES** (q. v.), which indirectly reveal incipient emotional behavior and inner tensions.

TREATMENT OF EMOTIONAL PROBLEMS: No problem can be treated in isolation; and everyone working with children makes the point that **CHILDREN**, not problems, are treated. Nevertheless the following methods have been used in cases where a **SPECIFIC** attack on emotional difficulties has been attempted. Obviously almost every

therapeutic device can be used to alleviate undue emotional stress.

1. REMOVAL OF CAUSE. A change in environment is one way of removing disturbing stimuli. Transferring the child to another school, putting him in a foster home, are examples of what can be done along this line. Such treatment is to be used with caution, for it is often only superficially effective. A child may be much better adjusted than formerly when his teacher is changed, but the shift does not insure that he will be any better equipped to meet future situations. The method does, however, allow other treatment a better chance of becoming effective. In a broad interpretation of the phrase, "removal of cause" is the perfect solution to emotional problems, if thereby the individual is given a new and adequate set of responses.

2. REEDUCATION: Reeducation involves the substitution of effective methods of meeting problems for the present ineffective ones. The child must try new experiences, set new goals, and achieve new satisfactions from socially desirable behavior. As in any educative process, the child must actively participate, rather than passively do what the therapist suggests. He should be encouraged to think things through critically, make plans to improve, and evaluate his progress periodically.

3. CATHARSIS. Any method by which the child can express his emotional feelings usually results in at least a temporary release of tension. He may do so by overt action or by verbal means, and he may be conscious or not of what he is doing. But Rogers (6, p. 303) says, "the spontaneous need for an outlet for repressed feelings is not frequently met in working with children. It does occur, however, especially in older children." The value of this method lies in the fact that "the child clarifies his feelings by verbalizing them, and gains a release from tension which makes it possible to face the real situation more constructively."

4. INSIGHT. Emotional behavior is usually characterized by confused thinking, especially with regard to one's own position in the situation. Once the individual "has things straight," much of the emotion is apt to disappear. Putting events in their proper relation-

ship, reducing exaggerations, putting emphasis on positive qualities—these are part of the technique. It is used more successfully with older than with younger children, since it usually involves a fairly good understanding and use of language.

5 **DESENSITIZATION**: Sometimes emotional responses are reduced in intensity through repetition. Just what happens psychologically when a person "gets used to" a certain situation is not too clear. **ENFORCED** contact with a feared situation was shown by Jersild and Holmes (2) to be a poor method of treatment. Evidently other stimuli of a positive nature must be present when the emotional situation is experienced, in order for its effectiveness to decrease.

A final word should be added to the effect that the attention of parents, teachers, and others in charge of children is more and more being directed toward the prevention of emotional problems. And the ones which cannot be prevented should be discovered and treated at the earliest possible moment.

—E.W.S.

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EMPATHY. Empathy is a term coined as an analogy of the word sympathy, meaning unconsciously but literally feel-

ing oneself in the place of another object or person. The term is most often used in connection with art. An artistic experience is one by virtue of the fact that the artist or the person contemplating the art feels himself to be a part of the artist's production. The slight and unnoticed muscular responses which he makes during such a process are the physical basis of the esthetic experience.

Such empathic experiences are not limited to aesthetic experiences. All significant experiences which are accompanied by inner strains, incipient movements and stresses embody empathy. When one unconsciously sways with the dancer, or when listening to a speaker unconsciously and silently imitates his manner of speaking even to the extent of being slightly hoarse at the close of the lecture, he has experienced empathy.

Psychologically, the understanding of other people is dependent upon empathy. When a person has insight into another person's attitudes or feeling, he may not understand why, but it is due to the fact that unconsciously in many respects he feels himself to be one with the other person. This is possible only to the extent to which one can lose consciousness of self. Of course when one becomes self-conscious, he is no longer projecting himself into the other person's situation but is thinking of himself and his own situation. The more nearly a person's background is like that of the art object or person observed, the more will an empathic experience be possible to him.

Children who at times have difficulty in distinguishing fact from fancy are discredited as being untruthful, when in fact, they have literally put themselves into the other person's place and claim an experience as their own which in reality has only been related to them. Much of everyone's social life is empathic behavior in that people fall into habits of speech, actions, posture, and even moods like those of people about them quite unconsciously.

—M.L.S.

ENURESIS. Voluntary control of the bladder function in humans occurs as the result of physiological maturation and appropriate educational influence.

Under conditions of normal physical and social experience, most children achieve this control both in the day and in the night by the end of the third year. Continued urinary incontinence beyond this period does begin to assume the significance of problem behavior that is implied in the term, enuresis. However, in estimating the significance of the enuretic symptoms, consideration must be given to its cause, age of occurrence, persistence, and particularly to the more general personality organization of the individual.

The etiologies that have been formulated fall into three large categories, namely:

1. physical disorders
2. faulty methods of training in the development of voluntary control
3. emotional disturbances and conflicts organized on

(a) the conscious level

(b) the unconscious level.

The problem of diagnosis is thus a medico-psychological one. There should first be a complete medical check up of the individual to eliminate the possibility of a physical basis for the disorder. In these cases, the treatment is completely a medical responsibility and is directed to the elimination of the physical disease.

Secondly, the parental training methods are profitably investigated. Common methods of treatment which attack the symptoms as such are chiefly of value in those cases where the problem is not one of basic personality distortion but a specific problem in training. In most cases of this variety the child is at a preschool or early school age and does not evidence any general neurotic or emotional disorder. With these children, simple devices such as the restriction of fluid intake in the evening and the use of superficial motivations (star chart, personal appeals) are quickly effective.

Finally it is by far the more common experience that enuresis is a core symptom in association with other symptoms such as unsatisfactory feeding, temper tantrum, nail biting, thumb sucking, hypochondriasis, fear reactions, speech impediments and tics. Ordinarily, therefore, the enuretic child is one who is beset by emotional problems that need solution. The enuretic symptom is one which embodies the many

strivings of the child, his psychological needs, his own peculiar responses to unmet needs, and his defenses against those internal drives that are socially non-acceptable.

In some cases, enuresis is one phase of a total regression to an infantile level of behavior, precipitated by sibling rivalry or other emotional deprivation. In these, enuresis represents an open, often conscious, act of aggression against a strongly rejecting or punishing parent, guardian, or family situation. These obviously regressive or aggressive tendencies are likely to happen among the younger children. The treatment is primarily directed to the elimination or amelioration of the precipitating circumstances, with a view to increasing the child's security within the primary social group and consequently within himself.

The largest group of children with persistent enuresis, continuing in some cases into the adolescent period, contains those children who demonstrate well developed neurotic formations. The underlying conflicts are strongly repressed and the psychological meaning of the enuretic symptoms for the individual child is not easily observable. Indeed while enuresis itself implies psychologically the absence of a normal inhibitory tendency, this tendency may contrast sharply with an overt picture of social passivity. (The inadequate, withdrawing type of behavior appears to be more typical of enuretic boys than girls). The significant fact is that these children do not respond to superficial forms of motivation. They need direct treatment or analysis of an intensive variety if the enuretic symptom and the underlying emotional disturbance are to be eradicated.—W.G.

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ENVIRONMENT. In discussions concerning human development, environment is often contrasted with heredity,

or nurture with nature. Possibly it would be better to regard heredity as a pattern of human potentialities at the time of conception, and nurture as a complex of forces and opportunities, of physical and social type, working upon and contributing to development—or to a retardation of development—of the original potentialities. The peculiarity of human nature, as distinct from animal nature, seems to be its extraordinary flexibility making it almost impossible to identify man's basic instincts, for the simple reason that they become blurred and altered almost since the first days of life. To the common question "Can human nature change?" the only proper reply is, "Changeability is an essential part of human nature." Environment and its formative powers are particularly significant in children's life, insofar as their nature is highly plastic and susceptible to outside influences and to requirements of adjustment. The kind of environment the child happens to be born into and the social attitudes confronting him during the first few years determine his character and personality to a greater degree than at any other period of life.

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See: **CONDITIONING, CONFORMITY, DEVELOPMENT, HEREDITY, INSTINCTS, MATURATION.**

EPILEPSY. DEFINITION: The term "epilepsy" is properly applied to a syndrome (a complex of signs and symptoms) rather than to a definite disease entity. It stems from the Greek word meaning "seizure" (from roots meaning "to seize" and "upon"), which evidently was applied in reference to the disturbances of consciousness and normal voluntary activity. Called "the sacred disease" (despite the teachings of Hippocrates) because of the mystify-

ing and awe-inspiring occultness of the seizures, "the falling disease" because of the frequently associated convulsions, and by various other designations throughout the ages, epilepsy remains today one of the Gordian knots of medicine. The custom among physicians of dropping the name "epilepsy" when convulsions are found to arise from some known physical condition (e. g., brain tumor, hypoglycemia) and the fairly common practice of reserving the term to designate idiopathic convulsive states is evidence of the tendency to equate "epilepsy" with "unknown." Best modern usage, however, retains the term to designate all attack-like phenomena (seizures) "produced by an abnormal excessive neuronal discharge within the central nervous system" (Penfield and Erickson), or else attempts to substitute terms, e. g., "cerebral dysrhythmia" (F. A. Gibbs, E. L. Gibbs and Lennox), that connote our newer knowledge of the fundamental mechanism of seizures.

Only the most common conditions generally considered under the heading of epilepsy, those that certainly can be classified as cerebral dysrhythmias, will be treated here. Certain relatively rare motor phenomena which could be included under the broad definition of abnormal excessive neuronal discharge within the central nervous system will be omitted from further consideration. Likewise, migraine and other conditions in "the border-land of epilepsy" (Gowers), which are closely akin to epilepsy and may represent sensory or visceral seizures, are dismissed with this passing mention.

ETIOLOGY. The causes of epilepsy are classically divided into two groups: (a) "immediate," "exciting," or precipitating causes, e. g., emotional tension, strong sensory stimulation, over-exertion, certain normal changes in body metabolism, etc.; and (b) "remote" or underlying causes arising from abnormal organic conditions in the brain (chiefly) or other parts of the body, e. g., brain defect, trauma, infection, tumor or hemorrhage and uremia, intoxication, etc. Now there is recognized (Lennox et al.) as operative in the great majority of cases and at a more fundamental level, (c) a hereditary, constitutional peculiarity of physico-chemical makeup and/or reac-

tion of the nerve cells in the brain.

Such a fundamental causative factor has long been invoked by students of epilepsy (cf "spasmophile diathesis," etc.), especially in cases where no organic cause for the seizure could be demonstrated (These were the cases—over three-fourths of all epileptics—classified as "primary," "essential," or "idiopathic" epilepsy in contradistinction to those of the "organic" or "symptomatic" type) Recently, however, revolutionary advances in the study of brain function have made it possible to objectify the diathetic concept. Through electroencephalography (recording the electrical activity of the brain) investigators have found that epileptics have distinctive types of abnormal "brain waves." As shown by the electroencephalogram (abbrev., EEG), these occur not only during observable seizures but also (in 95 per cent of cases) during intervals between seizures when the patients appear normal. Furthermore, it has been found that for every person with clinical epilepsy there are about 19 who have cerebral dysrhythmia (abnormal brain waves) without any other evidence of epilepsy. These individuals with cerebral dysrhythmia, who comprise about ten per cent of the general population, apparently have an epileptic diathesis and thus constitute the reservoir from which the overwhelming majority of epileptics come. Both epileptic seizures and cerebral dysrhythmia without seizures are from five to six times as frequent among the near relatives of epileptics as in the general population. The reported high incidence of alcoholism among the parents of epileptics is not to be interpreted as evidence that alcoholism in parents causes epilepsy in their children. Rather, the alcoholism (along with certain other psychopathic manifestations) may often be regarded as possibly indicative of subclinical epilepsy in the parents.

PREVALENCE AND AGE INCIDENCE: Statistics indicate that at least 0.5 per cent of all persons (i. e., 650,000 in the United States) have had or will have epileptic seizures at some time in their lives. This figure is probably too low but it gives one an idea of the magnitude of the problem. In most cases onset of seizures occurs early in life, before the age of 15 years

in about half the cases, before age 20 in about 75 per cent and after age 30 in less than ten per cent. The years of adolescence and the first two years of life are the age periods in which most patients have their first seizures.

CLINICAL FEATURES: The outstanding epileptic phenomena are: (1) impairment of consciousness, varying from transient and slight to prolonged and profound, (2) involuntary motor activity, ranging from spasmodic contractions of a single muscle group to severe generalized convulsions; (3) abnormal sensations either somatic or visceral, and (4) abnormal behavior, which may take the form of more or less automatic activity associated with obvious clouding of consciousness, or may appear as highly integrated, consciously motivated anti-social behavior, i. e., a typical "behavior problem." These manifestations are encountered in all possible combinations, though as a rule one or another will predominate in a given seizure. Furthermore, there is a general tendency for any one patient's seizures to conform to an individual pattern; but this pattern may change with the passage of time and according to circumstances. For practical purposes epileptic seizures are classified into types and named, according to the features that predominate. The following clinical types are most common:

MOTOR SEIZURES—when severe or generalized convulsions, called "grand mal"; often preceding by a sensory seizure or "warning" called the aura (commonly a queer sensation in the stomach region): in severe attacks often following the typical sequence of loss of consciousness, falling, a generalized rigidity (tonic phase), then a clonic convulsion followed by relaxation and usually a lapse into deep sleep but occasionally a period of confused, automatic, sometimes violent psychomotor activity. Local or Jacksonian attacks are a special type of motor seizure; they may progress to generalized convulsions. Viscero-motor components (urination, defecation, flushing or pallor, etc.) are often seen in severe seizures. "Status epilepticus" is the term used to describe a continuous series of severe seizures, in which the patient does not regain consciousness in the intervals between convulsions. In 51

per cent of cases grand mal seizures are the only type reported, and 90 per cent of epileptics suffer one or more grand mal attacks.

SENSORY SEIZURES—sensations of discomfort (esp. epigastric), pain, tingling, numbness, etc. in various parts of the body, dizziness and auditory or visual hallucinatory phenomena (e. g., sensation of buzzing sounds or light flashes), may occur by themselves as the only manifestations of a seizure but more commonly usher in other attack phenomena, constituting the aura. About 50 per cent of epileptics experience them regularly.

PSYCHIC SEIZURES — attacks in which the outstanding feature is impairment of consciousness and intellectual function, include "petit mal," automatisms (psychomotor attacks) and illusional ("dreamy state") seizures. Of these petit mal (minor seizures, transient "absences") are most common, occurring more frequently than any other type of seizure, in some cases being so slight as to be hardly noticeable and attaining a frequency of hundreds per day. In about 40 per cent of cases petit mal are the only type of seizure ever experienced. In one sub-type called pyknolepsy, the prognosis for cessation of attacks after adolescence is good. On the other hand some patients who at first experience only minor seizures later shift to a grand mal pattern. Minor motor manifestations occur quite frequently as components of petit mal.

The kaleidoscopic clinical picture of epilepsy is described in detail in the classical contribution of Gowers and in books by modern authorities. A most important fact in regard to the clinical aspects of epilepsy is that, regardless of appearances, all cases should be studied individually by qualified physicians. In two cases with seizures that seems to be identical the diagnosis, treatment and prognosis may be quite different.

EPILEPSY IN CHILDHOOD: Epilepsy is a disorder of childhood in the sense that the great majority of cases have their onset before maturity. While seizures in themselves (status epilepticus excepted) rarely imperil the life of the patient, conditions causing seizures may threaten life or may chronically incapacitate the patient for normal living. Although many children may have

one or two convulsions (e. g., precipitated by fever) and then go through life without further seizures, the occurrence of even a single seizure is a matter for concern and calls for medical consultation. Likewise, bed-wetting, nightmares and temper outbursts—in rare cases precursors of seizures—and severe behavior disorders which may be associated with cerebral dysrhythmia and so represent sub-clinical or incipient epilepsy, are matters for expert medical attention. In every case with epileptic manifestations careful diagnostic study should be made, any remediable underlying cause eliminated and special attention paid to the child's general health and hygiene.

Thom has shown that young children who have seizures, especially recurring attacks, are more likely to have chronic epilepsy later. If seizures recur, medical examinations (including electroencephalography, if possible) must be repeated. If there is still no condition found which is amenable to curative medical or surgical measures, a special treatment regime should be instituted. Unfavorable physical factors (e. g., malnutrition, bad posture, eyestrain, infection, over-exertion, etc.) should be dealt with. Sedative drugs may be given, but only under careful supervision by a competent physician, and medication should not be discontinued unless so ordered. Sodium diphenyl hydantoinate ("dilantin," "epanutin") is the drug of choice in most cases because it does not stupefy the patient and retard intellectual processes. Finally, but most to be stressed, is the observance of proper mental hygiene by both patient and relatives. This involves the elimination of harmful emotional tensions (especially the anxiety arising from dread of seizures), the prescription of healthful, satisfaction-giving activities and the leading of a life as nearly like that of any average child as the patient's condition will permit. Superstitious attitudes in regard to epilepsy should be revised. Old misconceptions should be discarded. Parents should learn that seizures rarely cause mental deterioration (being more often the **RESULT** of brain defect or damage) and that convulsions per se are not particularly to be dreaded. Far more disabling is the abnormal brain cell activity, that goes on in be-

tween attacks. This may be ameliorated by the tension release afforded by a seizure. In any event it is countered most effectively by a sane, systematic treatment regime and calm, persistent courage on the part of the patient and all concerned.

The PROPHYLAXIS of epilepsy involves the prevention of all the causes of seizures. An obvious step is the lessening of birth injuries through improved obstetrical practice. The prophylactic use of vitamin K may assume importance in this connection. The control of hereditary factors is a matter of eugenics—W.F.R.

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EXAMINATION, PSYCHIATRIC. Psychiatry is the medical approach to the understanding of all problems of the psychological part of the body. It is based upon the sciences of psychopathology and of psychology. In psychological deviation there is demonstrable pathology of the structure of the psychological level of the body. For example, certain meanings can be expressed only in abnormal ways (neurotic symptoms) because the normal structural relationships between instincts and their sources, aims and objects are damaged. In some mental diseases, misleadingly singled out to be termed "organic," there is demonstrable pathology on other levels of the body as well. Such demonstrable dam-

age also has meaning and hence effects the structure of the mind. The idea that some mental disorders are "organic" and others not "organic" is traceable to a lack of understanding of the reality of the mind as a functioning organ. (See "Meaning").

The psychiatrist observes the nature of the functioning of the mental organ. Even at the present day psychiatric examinations are practically restricted to recognized, usually advanced, cases of mental illness (mental illness includes criminality). This restriction is exceedingly unwise and here and there it is already being lifted so that preventive psychological medicine can be extended to insure prophylactic measures for mental processes.

The psychiatric examination is the investigation for purposes of treatment of the personality of the complaining patient. This investigation attempts to determine the nature of the individual's mental health; what psychological morbidity he suffers (his symptoms); when and how much he suffers; how his complaints are related to his total life course, and how illness happened to him.

The history of the psychiatric examination is a story of increasing recognition of the significance of mental symptoms both as having personal meaning and as being evidence of damaged psychological structure. This recognition has coursed the development of the medical psychologist's capacity for awareness and ability to evaluate relationships. The history is one of slow development almost to the end of the nineteenth century when, beginning with the acute observational powers of Kraepelin, the examining process experienced tremendously accelerated growth. With Charcot's acceptance of the organicity of the "idea", Bernheim's awareness of the influence of deep suggestion, Janet's attention to the dissociation of mental content, and Freud's discovery and loyal prosecution of the hypothesis, "Free Association," all furnishing the 'vis a tergo', the past several decades have witnessed its chief scientific developments. In this country Adolf Meyer's diligent vigilance regarding the facts of observation has been a growth stimulating factor.

The subject matter of the psychiatric

examination is the individual, by which is meant, all of the individual and the individual alone. Nevertheless, instead of starting with the patient, every psychiatric examination necessarily begins with the psychiatrist's point of view, his way of looking at life, the mental shape that his biological constitution and experiences eventuated. Whatever mental set, "apperceptive mass", the medical psychologist brings to his patient constitutes his unique contribution to the psychiatric examination. In psychiatry every diagnostician must be his own measuring stick and cup, and only his self-knowledge (based upon his capacity for self-awareness) can inform him as to what units of measurement he represents.

The examination of the mind is work of peculiar difficulty because mental action both in its manner and in its matter taxes the powers of observation to the utmost. Man's unscientific ways of dealing with his own mental happenings are traceable to efforts to feel comforted that he controls them and are seldom detected by him as the costliest disregard for consequences. It has remained for the specially trained psychiatrist to expose disrespect for the content and course of the mind as the expensive form of immature self-indulgence that it is. Since all observation is self-observation, accuracy of the psychiatric examination is dependent upon the psychiatrist's capacity for self-observation. Thus, to the extent that he falsely assume self-understanding and self-management he is forced to depend upon false understanding and management of his patient.

The scientific study of the characteristics of the total individual, that is, of the expression of the personality, involves working steadfastly upon the psychological level of the body, and involves the reduction of all data of observation to terms of psychological level significance. Although this, the direct road to the understanding of the mind, is a particularly exacting one that has but recently been opened, the strict holding to its course has proven its effectiveness.

The psychiatrist's "first impression" of the patient is of relatively great significance for the complete examination so that it is desirable to postpone the

formulation of this bias pending the accumulation of as many data as possible. Seeing the patient first (before consulting with relatives, case workers and histories, "about him") respects the purpose of the examination most. In order accurately to evaluate the person's reactions in their settings, the examination may be continued over a period of weeks or months. The examination, continued over a period of time, observes the patient making history. A complete history of a person offers a complete explanation of him. The patient's modifiability being influenced by all contacts with the psychiatrist it is well to be advised that psychiatric treatment begins with the examination.

The mind, or psyche, is physical, it is organic; it is the highest level of integration of the body. It expresses the individual (the personality) in action adapting itself to its environment. Illnesses in any other parts of the body have meaning for, participate in the content and course of, the mind and therefore must be detected and evaluated for this meaning. Mental illness also influences other body organs and systems. Vicious circles are set up between the foci of illness of these various parts of the whole organism.

In psychiatry therefore, more than in any other division of medicine, a thorough examination of the patient is indicated. Psychological deviation calls for a complete study of the whole individual and includes the observations of the psychiatrist, internist (including laboratory workers), neurologist, psychoanalyst, psychologist, and social worker.

The samples of all the patient's processes are studied through their specific productions under varying circumstances. The patient's performances at rest, during exercises, awake and asleep (for example, dreams), are essential to the understanding of him. On all levels of his being structural characteristics are investigated such as physique (including the phase of the whole body development as well as the partial functions of its organs and systems) energy, instinct (including impulse and wish), motion, sensation, perception, attention (including awareness, the conscious, fore-conscious and unconscious) repetition (including memory), thought

processes (including intellect), emotions (for example, love, hate, fear, rage, guilt, shame, disgust), temperament, character, defense mechanisms, self-insight, capacity for development. By evaluating their meaning to the patient, all of these examinational data are converted into diagnostic power.

"The individual variant" is a key concept of medical science. The procedure for the mental examination can not be uniform for all cases but must be varied to suit each person. Every patient represents an entirely new situation and the working of his mind (psychodynamics) must be observed diligently and with tolerance of ignorance and uncertainty regarding its nature until a better insight is gained. The patient presents the only facts to be respected in the examination. He alone has all of the causes of his illness within himself. These causes therefore can be found only within him. Thus information gleaned anywhere except from the patient himself is suspect, but any data at all that come directly from him are in some sense pertinent.

Particularly because of their impressionable, dependent and resilient natures, their normal tendencies towards excess and quick reversibility, and the heavy demands imposed upon them by culture, the minds of the infant and child are normally heavily burdened and the line between sickness and health is not always readily distinguishable in them. Their "sickness and health" distinctions are further obscured by the fact that mental illness always involves withdrawal from reality in the sense of psychological regression to more primitive (immature) forms of self-expression, and the kinds and degrees of regression are less readily detectable in the physiologically immature.

Therefore, considering the special proclivities of their ages and their limited capacities for communication and for cooperation in general, the psychiatric examination of infants and children requires special modifications. These same allowances for special orientation in terms of development play an indispensable role in the observations of the pediatrician, psychoanalyst, neurologist, psychologist, laboratory and social worker.

Everything in the way of formal examination serving to estrange the child, the psychiatrist works to meet him on an informal plane so that he can come really to know him. The surest road to success in reaching the child is to be fully interested in him and keenly aware of all that he does and says. Only by knowing what it is that the child is expressing can the psychiatrist go with him and eventually further the examination.

The activity of play is the field of tested reality for the child generally up to the beginning of his school years and, theoretically, he expresses himself more completely (naturally, fully, and freely) in play, so that the psychiatrist adopts the play technique as affording the best medium for establishing "rapport" (accepted contact) with him. When feasible this technique is supplemented by the usual methods of examination such as the interview, performance tests, and questionnaire.

—J.M.D.

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See: CASE HISTORY.

EXHIBITIONISM. This term had its origin in psychoanalytical psychology and was associated with the exhibition of certain parts of the body, especially the genitals. In the wider contemporary sense, however, it is used to describe any attempt made by an individual to become the center of attention, and may or may not involve a sexual factor.

Instances of sexual exhibitionism may be found in public buildings, on sidewalks, in school rooms, school grounds, or in the toilets. These may include either exposure of the body, vulgar language, indecent scribbings, or the drawing of obscene pictures. Strict but unobtrusive vigilance, understanding, and redirection should be employed in combatting such situations. This type of behavior is often symptomatic of ignorance, maladjustment associated with sex, or it may result from an attempt to compensate for feelings of inferiority, real or imagined. In such cases the motives must be determined before the problem can be solved, and the services of a clinician should be enlisted.

Adolescents are particularly prone to the "showing off" type of exhibitionism as evidenced by their wearing of flashy clothes, talking loudly, telling questionable stories to shock others, bragging, etc. Although these tendencies annoy adults, they are, for the most part, evidences of immature but normal attempts to secure attention or social prestige, or serve as defense mechanisms to compensate for inferiority. Participation in dramatics or athletics has been suggested for those adolescents who seek the "limelight." This may be ineffective, however, if the exhibitionism is symptomatic of more serious emotional maladjustment, and in such cases the advice of a psychiatrist should be sought.—F.K.M.

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EXTROVERSION. **EARLY CONCEPTIONS** The concept connoted by the term "extroversion" has grown out of attempts to type the personalities of men and women. Most of these endeavors, which began with Hippocrates' (400 B. C.) classification of temperaments into so-called SANGUINE, CHO-

LERIC, PHLEGMATIC, and MELANCHOLIC types, were made before psychology became a science. Among the first of the type categories was that by the Swiss psychoanalyst C. G. Jung, who in 1923 (*Psychological Types*) advanced the belief that most individuals can be characterized as **INTROVERTS** or **EXTROVERTS**. Actually, these two types constitute the extremes of a continuum, the center of which Jung and others have largely neglected because of their primary interest in antithetical personality patterns.

In contrast to the more reserved and self-conscious introvert (described in more detail under **INTROVERSION**), the extrovert is said to express his libido, or life energy, with reference to objective conditions and particularly in relation to people. Because of his "out-turned" personality, the extrovert is good-natured, self-confident, quick to socialize, a good mixer, and in general a man of action. His interest in people, in social affairs, and in athletic and other active events tends to make such an individual popular with his associates. The typical extrovert is also said to be fluent in speech, relatively free from worries, not easily upset by obstacles, neglectful of personal ailments and belongings, and adaptable in adjusting to new environments.

EVIDENCE FOR TYPES. Although Jung's characterization of the extroverted personality has much to commend it and is in certain respects typical of given individuals, it is obviously in error in assuming that the majority of persons can be classified as belonging to contrasting personality types. The scientific measurement movement has shown that when a reliable sampling of individuals is tested by inventories designed to measure introversion-extroversion, their scores distribute themselves in the same normal curve of probability typical of testing programs in non-personality fields. Such results have been secured by Heidebreder, Newcomb, Gilliland and Morgan, and others.

This occurs because most individuals taking such a test answer some items in a way diagnostic of introversion and others in a fashion favorable to extroversion. Most persons thus fall somewhere between the extremes of

introversion and extroversion—instead of qualifying as types they turn out to be composites or mixtures of contrasting tendencies. In the case of Newcomb's children, responses to specific situations involving introvertive and extrovertive behavior were often no more frequent in one direction than in the other. Since the only true types would logically be those at the extreme ends of a curve, it has been concluded by many psychologists that most individuals do not conform to the type idea.

THE ETIOLOGY OF EXTROVERSION. It should be recognized, however, that many people possess personality traits suggestive of the extrovertive type as depicted by Jung. It can thus be seen that the concept of extroversion (and the contrasted concept of introversion), in spite of its limitations, is useful in the description of personality patterns. It has frequently been found helpful in vocational guidance programs, as well as in problems of adjustment in general.

Judging from his writings, it is Jung's belief that personality tendencies are predominantly innate. Although each individual possesses the possibilities of both extrovertive and introvertive mechanisms, the mode of adaptation he will make is said to be in the main constitutionally determined. Training and experience can modify behavior trends but they are not responsible for the development of basic personality patterns. Jung acknowledges the difficulty of diagnosing introverts or extroverts who endeavor to maintain an adjustment with society by compensating for extreme tendencies.

Some workers feel that this view is supported by such studies as Marston's, Woolley's and others, in which extrovertive or introvertive tendencies were clearly in evidence in children during their first years of life. Marston, for example, found that certain children less than five years of age exhibited the sensitive, reticent, and self-conscious tendencies of the introvert, and that others possessed the sociable, optimistic, and outturned characteristics of the extrovert.

There are workers who do not feel that such evidence proves the case for the biological inheritance of personality traits. They contend that there

is much clinical evidence indicative of the derived nature of extrovertive as well as other patterns of behavior. Extroversion is believed to be the natural result of a constructive childhood in which a sense of security and being liked by people is coupled with the development of social skills and with satisfying experiences in social activities at increasingly higher levels of maturity. On this basis moderate extroversion is regarded as being synonymous with social orientation and emotional stability, and is believed to be the product of experiences which satisfy the dynamic nature of the growing child.

THE ANALYSIS OF EXTROVERSION-INTROVERSION. Although a discussion of the measurement of extroversion-introversion tendencies is left for the section dealing with personality tests, a recent technique for the further analysis of such personality trends developed by Guilford and others should perhaps be mentioned here.

The new method in question—factor analysis—is designed to check the validity of Jung's original declaration that there are four sub-types of both extroversion and introversion, namely, the THINKING, the FEELING, the INTUITIVE, and the SENSATION types. According to Guilford's quantification of the factors or clusters of traits generally encompassed by the concept of extroversion-introversion, there are five that can be discerned with considerable certainty. These may be described as (S) SOCIAL introversion, as exhibited in shyness and withdrawal from social contacts, (T) THINKING introversion, or the tendency to meditate, philosophize, and analyze one's self, (D) DEPRESSED introversion, or the tendency to harbor feelings of unworthiness and insecurity, (C) CYCLOID tendency, or fluctuations in mood and emotional instability, and (R) RHATHYMIA, a happy-go-lucky or carefree disposition.

It would appear from this analysis that there are DIFFERENT PATTERNS of extroversion and introversion as well as different degrees thereof. It is evidently not possible to type or describe a given person by recourse to the blanket term "extrovert." Most psychologists would prefer a description of the individual's concrete acts and char-

acteristic disposition to behave in given social situations. Probably the only blanket characteristic of extrovertive behavior is its outwardly directed nature. This is the principal basis upon which vocational guidance for so-called extroverts is carried on. Investigations indicate that they score relatively high in interest for such professions as engineering, law, psychology, and architecture, and that they tend to succeed as salesmen, business men, public administrators, teachers, and executives. Extrovertive employees tend to be more active, alert, ambitious, and well-integrated than others.—L P T.

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See: INTROVERSION, TYPES.

F

FAIRY TALES. There is need for imaginative outlets almost at any age. The adults enjoy listening to, or reading, stories of the kind suitable to their taste. Young children like fairy tales, insofar as these meet their psychological needs. There is room in their lives for Snowwhite, Santa Claus, Aladdin's lamp, and Mickey Mouse—just as there is room in adult life for fiction and shows. To attempt to purge fancy—as has been suggested—from children's stories and to replace it with sober realism is to strike at the very root of the normal demand of an early age.

See: BOOKS, IMAGINATION, READING.

FAMILY GUIDANCE. THE NEED FOR FAMILY GUIDANCE. Organized family guidance services are relatively recent social developments. But family guidance is not a new social function. Perplexity over human relations is nothing new although it is, perhaps, more widespread and acute in times of rapid social change, when individuals find themselves confused by the very abundance of clear-cut and plausible patterns for individuals or groups to follow, all in mutual contradiction. Troubled people have always turned to others for counsel and support—to older relatives and friends, to the wise-man or chief of the tribe, to the village philosopher or, in our own type of culture, to the doctor, lawyer or clergyman. In more recent years psychiatrists, psychologists and social workers have been added to the list of professional family counsellors.

Changes in family and community patterns in the United States, within even the past fifty years, have decreased the opportunities for informal coun-

selling in the family or neighborhood group. Older members of the family are not being turned to as readily as before for a bit of advice or a heart-to-heart talk, largely because their experiences seem to younger folks so far removed from present-day conditions. For a large part of the population churches too have lost their intimate hold, although many religious institutions have recognized the new conditions and are trying to use new resources and procedures to serve their members.

While populations have become denser, neighborhood life has actually broken down, so that there is little left of the incidental sort of counsel that adults once received from one another. Very seldom now do neighbors know one another's most intimate personal affairs, backgrounds, and childhood years. Families and individuals move into a region and remain indefinitely strangers to those around them. This depersonalizing of the neighborhood which is so typical of modern urban life no doubt has certain advantages; but it results in leaving each family pretty much on its own in solving its perplexities.

During this same period many of the professions have become so specialized that their friendly human function has almost disappeared. While there are still individual doctors, lawyers and clergymen—to say nothing of grandparents, teachers and friends—who perform the informal guidance function admirably, such help is no longer generally available—nor was it always competent.

While the old opportunities for informal counsel have been disappearing, rapidly shifting social patterns have increased the strains within the family. In the past, parents had at

least a sense of solidarity within their social group: they felt themselves members of an established pattern of life, with accepted rules and customs. They also had the backing of the church and could affirm their beliefs or their authority with a high degree of assurance. Today many of them are confused as to their own life values. Consider, for example, the changing status of women, to name only one of many new sources of anxiety and strain.

Although any discussion of woman's rights and woman's status sounds decidedly old-fashioned today, women are still confused about their place in our civilization. They are far from clear as to what they want out of life, what they may expect, and what their own responsibility is in building for themselves and their families. The new freedom has brought to many women new confusion rather than release.

Our high rates of divorce, of juvenile delinquency, and of mental illness testify that all is not well with our modern families. We do not know, of course, whether the rapid increase in divorce in the United States means that there are more unhappy marriages in our day—or merely more social freedom to break them. Similarly, it is hard to say whether the apparent increase in mental illness reflects a real rise in the incidence—or merely a greater public awareness of the need for care. Whatever be the answer to these puzzling questions, there is ample evidence of widespread need for help with family problems, marriage, parent-child relations, all the complex social adjustments of children, adolescents and adults.

While love of our children and the deepest concern for their welfare can in no sense be considered a product of our own times, in one sense each particular child has become more precious, not only to his parents, but to the community as well. As families have become smaller, with only one or two or three children instead of the six or eight or ten of an earlier generation, there is now less "margin for error". The individual family can no longer endure the disappointments and humiliations of its own "black sheep", and the rest of the world is not so

tolerant. It is no longer satisfactory to say that a family has turned out very well "on the whole". Each set of parents wants its own particular family to be just as healthy and happy and well adjusted as it is possible for a family to be.

THE GROWTH OF COUNSELLING SERVICES: Public recognition of these problems has led, within the past century, to the creation of a great variety of social agencies whose duties are either preventive or curative in the field of family relations: family case work organizations, juvenile and domestic relations courts, child guidance and parent education services, social hygiene, maternal health and birth control centers, and psychiatric clinics. It is not the province of this article to name or explore them all, but it is worth pointing out that they represent many different approaches to the same basic problems of family adjustment and that typical family guidance services have grown up to supplement the work of many of them in recent years. Similar family counselling services have been developed in connection with certain churches and schools; a few have been organized under entirely independent auspices.

TREATING THE WHOLE SITUATION: While these family counselling services differ somewhat in emphasis, organization and clientele, fundamentally they all result from the gradual recognition that many problems are broader than the immediate difficulty for which the client seeks help—be it poverty, marital conflict, venereal disease, a problem child, an unwanted pregnancy, an adolescent delinquency, or a college failure. No matter how specialized the agency or the profession, it discovers in time that in many cases effective and lasting help cannot be given if the counsellor construes his task too narrowly.

A wise and experienced counsellor recognizes that there are many relatively simple questions that can be dealt with simply. Clients with such inquiries are not subjected to deep probing unless they themselves seem to invite it. But it is for the counsellor to find out what the question means. He must learn to listen to the questioner as well as to the question, to hear all that it has been impossible

to say, as well as what was put into words.

Sometimes the most objective question will bring to light a complex family situation or a deep-seated antagonism. One mother, for example, came to a parent education agency to ask for a "reading list for a girl of thirteen", but, through the tone of her voice, her facial expression, and an occasional remark, she revealed to the counsellor that there was real anxiety behind this innocent request. She was so eager about the book list, it soon became clear, because she hoped that it would keep her thirteen-year-old daughter from going to the movies so much. And it developed that going to the movies was only one of a dozen things that she desperately wished her daughter would not do. Here was a clue to a complex family problem.

Similarly, a request for "information on heredity" may mean "is it safe for me to marry this man whose father was a drunkard?"; or it may cloak a deep-seated personal fear of insanity, or the dislike of a child who resembles a hated relative—or perhaps the desire to avoid having children at all.

A young woman may seek pre-marital advice because she needs some straightforward information on sex hygiene and contraception—or she may ask almost the identical questions because she dreads all sex experience and needs the most skilled psychiatric help. The professional counsellor must be prepared to go beyond the surface question when the situation demands it.

Accordingly, social agencies of various kinds have created special machinery to deal with such cases through intimate conferences which permit exploration of the total situation. In this connection they have the services of a variety of specialists, either as staff members or as regular consultants. Thus organized family counselling services have developed under the most diverse conditions to serve groups which are equally diverse.

TYPES OF FAMILY GUIDANCE SERVICES. There are naturally great differences among the typical problems brought to these agencies, and also among the agencies themselves as to the depth and level of their services. The basic outlook of a particular service undoubtedly influences its original

choice of staff and that, in turn, continues to exercise a selective influence upon the cases brought to it.

Family counselling services that have grown out of parent education associations, nursery schools, and child guidance clinics deal mostly with the complexities of inter-personal relationships. Services set up by maternal health associations or social hygiene leagues or pre-marital clinics quite naturally see a high proportion of cases involving problems of sexual adjustment. Obviously, no hard and fast lines separate such agencies. Marital conflict may be the real cause behind the gynecological problem which brings Mrs. Jones to the maternal health center, or it may equally well be the real cause behind Johnny Jones' failure at school.

The counsellor in a social case work organization or in a domestic relations court sees problems in many ways similar to these others, yet the economic and social settings differ and necessitate differences in organization and technique. Many of the difficulties brought to a guidance clinic on a college campus will have their roots in sexual problems or family relationships, but again the major emphasis and the method of work will be peculiar to the situation.

There are wide differences in method and organization even within any one class of guidance services. A college counselling bureau may be concerned almost entirely with academic and vocational problems—dealing largely with specific programs, routines, the meeting of requirements, choice of jobs or curriculum, and referring to outside specialists all problems involving personality adjustment or complex family relationships. Yet in some colleges the counselling service is essentially family counselling at its best, being psychiatrically informed and recognizing that college disciplinary problems do not originate at the college level. Our attitudes toward authority are born in the family and so, indeed, are the emotional drives behind many of our academic strengths and weaknesses. In a few instances these college clinics have been expanded to serve the staff and employees as well as the students—or even the entire surrounding community.

Similar diversity in purpose and in effectiveness appear in other areas. For

example, every nursery school director conducts guidance conferences with parents and teachers. These conferences may deal exclusively with the formal and disciplinary phases of education, and often do. But when the director has deeper insight into the emotional factors in the child's development, her regular conferences lead to a general exploration of family relationships and personal adjustments. If the nursery school is part of a university or training center, the help of collateral specialists is usually available. Sometimes the service is opened to the whole university—or even to other parents in the community.

After more than thirty-five years of experience with the problems of parents on a strictly "educational" level, the Child Study Association of America began in 1927 an experiment in counselling that has continued in many ways unique. The Child Study Association had been trying to teach parents the best to be learned from various specialists about habit training, discipline, sex education, etc. etc. But there was an increasing demand for more direct and intimate interpretations and applications of the general principles offered in the educational program. The consultation service, under the direction of a psychiatrist, considered at first only the behavior problems of children which members of the study groups brought for advice. In the course of time more and more clients came with their own personal and family problems. The hundred or more new cases each year vary from relatively simple requests for checking on home procedures and routine to very complex problems in family relationships, which demand more prolonged and intensive work—primarily with the parents, but often with the children and with other members of the family. The staff includes a psychiatric social worker and a child guidance specialist, and draws upon other members of the Child Study Association staff as needs arise.

It has concerned itself with all the problems of the family members, among all classes of the population, and it has systematically integrated its experience with a broad educational program of training not alone for parents, but for teachers, social workers, public

health nurses, pediatric nurses, etc.—and since our entry into the war, for volunteer workers in the care of children.

The Association for Family Living, in Chicago, has its educational staff available for personal interviews, on request; and refers special cases to a cooperating part-time psychiatrist. In the Los Angeles Child Study Center, the chief effort is with the individual child's specific problem, and play therapists are called upon for supplementary help.

The Merrill Palmer School in Detroit has been carrying on a special study of counselling possibilities with married college women.

Again, every family case work agency does family counselling, usually on a high professional level. Some extend this service only to accepted relief cases. Others maintain a general counselling bureau to which any form of family perplexity may be brought independently.

Every minister, priest, and rabbi hears confidential reports on family difficulties and is called upon for advice. Some of these men are highly competent counsellors. Others turn to professional social workers to supplement their efforts. In a few churches guidance bureaus are officially organized and open to the outside public.

EXTENT OF FAMILY GUIDANCE:

It is almost impossible to define and classify such services for statistical purposes. In 1936 Mary Shattuck Fisher estimated that there were approximately one hundred organized family consultation services in this country, all of which had been developed since 1928. There have been some notable additions since that time and a few services have perished for lack of financial support. No clear definition was given in that article and it is hard to determine just what types of services were included in the estimate. It is no easier to make an accurate count today. One can say with assurance only that there has been a rapid growth of family counselling services within the past decade; and that they all show a trend away from over-specialization and toward a broader view in dealing with the personal difficulties of individuals and families.

NEW TRENDS IN PROFESSIONAL

EDUCATION: In response to this trend, there have been two parallel developments in the field of family guidance in the United States. One is the increase of counselling services organized to include specialists from many different disciplines, the other is an increasing demand for the broader education of all individuals whose professional work will involve family counselling in any of its many forms. The same decade which saw the rapid rise of organized counselling services brought equally significant developments in coordinated research and training.

A few outstanding examples will suffice to illustrate the trend. In the late 1920's the Institute of Human Relations was opened at Yale University for the joint investigation of human problems by specialists from all the medical and social sciences. In 1932 a nursery school for normal children (The Payne Whitney Nursery School) was established in the hospital buildings of the Cornell Medical Center, in New York City, not only for research purposes but also as an adjunct to the practical training of student pediatricians and psychiatrists. At about this same time the Council for Clinical Training at 2 East 103rd Street New York City, was organized under the joint auspices of the clergy and the medical profession. This co-operates with sixty-five theological schools in the United States and Canada in offering seminars and field work in social agencies and hospitals as part of the training of prospective ministers.

In 1938 the Progressive Education Association established its Institute on Personality and Social Adjustment, organizing seminars and field work for experienced educators and other professional people working with children, in an effort to orient them from the mental hygiene approach.

Such outstanding experiments are still comparatively rare, but in many training centers promising beginnings have been made by introducing courses in related disciplines among the requirements for the specialist degrees. Since it seems probable that the greatest part of family counselling will remain an individual professional function for many years to come, the importance of this trend in professional

education is clear.

STANDARDS FOR FAMILY COUNSELLING: There is little agreement among leaders as to what constitutes today the best professional training for the individual who is to direct an organized family counselling service. Many feel that psychiatry or social work offer the best technical preparation—although much obviously depends upon the orientation of the particular agency, the type of situation with which it deals most frequently, and the extent of its supplementary staff and its opportunity to consult, or to refer to specialists.

Several attempts have been made to formulate qualifications and training standards for family counsellors, but it has been difficult to obtain any general agreement for very good reasons. There are genuine differences in the work that various counsellors are called upon to do and personality and personal adjustment necessarily play a prominent role in both the selection of workers and in their effectiveness. As Robert G. Foster points out, "The extent to which technical courses and personal aptitudes, respectively, contribute to competence in counselling is difficult to determine. Certainly personal adjustment and objectivity, breadth of experience, and technical training are all more or less important for good counsellorship." His detailed analysis of the various factors involved is helpful as is also Dr. Ruth Brickner's discussion of the qualifications of a good counsellor.

While it is quite possible to outline in a general way the needed qualifications, personal and technical, which make a good counsellor, it seems unwise to attempt a standardization of requirements for the staff and organization of family counselling agencies.

Only the most general standards are universally accepted. Joint conferences for the formulation of standards have often turned into defensive debates. Nor is this entirely surprising, considering the wide diversity among present practices in counselling agencies. While all agree that professional counsellors must be qualified in terms of personality, experience and training, attempts to define these qualifications more precisely have not been fruitful.

Probably everyone would agree that

the family counsellor must be a friendly, tolerant, objective person, free from the need to dominate others or to work out his own problems through their lives. Many feel that a personal psycho-analysis is the best guarantee of such tolerance and objectivity, but certainly excellent work has been done by counsellors without this particular preparation.

A full rich personal life, actual experience in marriage and parenthood, contacts with many sorts of human beings and their diverse problems are considered desirable.

A good background in psychology, psychiatry and sociology and some acquaintance with the findings of modern medicine are recommended.

Some training in social case work is certainly helpful, but by no means all existing agencies require it.

In considering standards for the organization and procedure, it is pretty well agreed that a family guidance service should be directed by a psychiatrist or a psychiatric social worker. If there is no psychiatrist on the full time staff, continuous psychiatric supervision is considered essential by most agencies, although some are content with referring more difficult cases to psychiatrists.

Specialized assistance from many different disciplines must be available; and there seem to be a number of satisfactory ways in which this may be obtained.

The physical set-up and procedure of the service must guarantee strict privacy for the client and adequate records for the staff.

Interviews should be by appointment, and long enough to encourage relaxation and unhurried confidences.

There is no general agreement in regard to fees. Many agencies feel that a small, graded fee is desirable for establishing a sound relationship between the counsellor and those he seeks to help. Nevertheless, all agree that fees cannot be high enough to support the service completely; in most of the existing services fees range from \$1.00 to \$10.00 a visit. In many cases, moreover, the nature of the agency practically precludes the collection of a fee for counselling. Where the counselling service is part of a public judicial system, or of a relief

agency, or when it is set up within a school or college for the guidance of its own students, fees would tend to defeat the major objectives of the service.

Family guidance services are still in the experimental stage. The present diversity in form is directly related to diversity of background and function and there is no reason to expect uniformity. There is no doubt that with the problems created and accentuated by the war, consultation services of all kinds will be organized.

OUTSTANDING COUNSELLING SERVICES: These are the better known services:

I. Developed through parent education organizations and nursery schools:

FAMILY GUIDANCE AND CONSULTATION SERVICE, Child Study Association of America, 221 West 57th Street, New York, N. Y.

CHICAGO ASSOCIATION FOR FAMILY LIVING, 209 South State Street, Chicago, Illinois.

ADVISORY SERVICE FOR COLLEGE WOMEN, Merrill-Palmer School, 71 East Ferry Avenue, Detroit, Michigan.

II. Developed through maternal health or social hygiene associations or marriage clinics:

MARRIAGE COUNSEL OF PHILADELPHIA, 253 South Fifteenth Street, Philadelphia, Pa.

MARRIAGE ADJUSTMENT SERVICE, Cleveland Maternal Health Association, 2101 Adelbert Road, Cleveland, Ohio.

THE AMERICAN INSTITUTE OF FAMILY RELATIONS, 607 South Hill Street, Los Angeles, California.

III. Developed through social case work agencies:

FAMILY CONSULTATION SERVICE, Associated Charities of Cincinnati, 312 West 9th Street, Cincinnati, Ohio.

CONSULTATION CENTER OF JEWISH SOCIAL SERVICE ASSOCIATION, 1819 Broadway, New York, N. Y.

CONSULTATION SERVICE, Community Service Society of New York, 105 East 22nd Street, New York, N. Y.

IV. Developed under church auspices: **PSYCHOLOGICAL SERVICE**, Riverside Church School, Riverside Drive and 122nd Street, New York, N. Y.

MARRIAGE CONSULTATION CENTER of the Community Church, 40 East 35th Street, New York, N. Y.

V. Developed in connection with col-

lege guidance:

CONSULTATION SERVICE, University of North Carolina, Chapel Hill, N. C.
GUIDANCE PROGRAM, Sarah Lawrence College, Bronxville, N. Y.

GUIDANCE PROGRAM in connection with Marriage Courses at Vassar College, Poughkeepsie, New York.

VI. Developed under YMCA auspices: Counseling Service, Boston, Mass.

There are numerous partial guidance services under the auspices of YMCA and YWCA, and Courts of Domestic Relations.—S.M.G.

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FAMILY MORALE. "Morale" is always an important factor in the success or failure of any group function or joint endeavor. Upon it depends the enthusiasm, the unity of purpose and co-operation with which group tasks are approached as well as the total energy which is directed toward their achievement. It is essential to the success of family functions and the achievement of family goals just as it is vital to the accomplishment of great national objectives or international ideals.

The term "morale" may properly be used with reference either to the group as a whole or to any particular individual within the group. "Group morale" refers simply to the average or "typical" attitude of the individual members toward the purposes and activities of the group and toward those in whom authority and leadership are vested. "Individual morale" with respect to any group situation, however,

may vary all along the attitude continuum from low morale to high morale. When group morale is high, the individuals of the group may be thought of as clustering near the high end of the morale scale. Their characteristic attitude is one of acceptance. They typically regard the general situation as hopeful and the goals and activities of the group as worthy and important. They are able to integrate their own purpose with those of the group and accept with confidence and trust those who lead. In somewhat varying degrees they share common interests, experience common needs, and pursue common goals.

The level of group morale, of course, is subject to change as circumstances change from time to time. Moreover, the morale of a group with regard to one aspect of the total situation might be quite different from that with regard to other aspects of the total group situation. This is particularly true when the grouping is large and inclusive such as, for example, the civilian population of a nation. Civilian morale might be high with regard to the problem of winning a war, but at the same time relatively low, on the average, with regard to the general political situation, for example, or the labor-management problem. The morale level with respect to any of these may fluctuate widely with the rapid passage of events in our modern world.

The group morale of a family, however, although subject to some change in average level as family circumstances change, as a rule remains relatively stable since it is so largely dependent upon close personal relationships between, and attitudes toward, specific personalities.

It is in the small group such as the family, however, that the matter of INDIVIDUAL morale and the variability from individual to individual become especially important. Individual differences naturally exist in any group. Some fluctuations in individual morale from time to time also occur as circumstances and interpersonal relationships change, or as the objectives and activities of the group shift from one emphasis to another. It is with these individual differences and fluctuations in INDIVIDUAL morale with respect to the common purposes and activities

of the family group that the present discussion is particularly concerned.

A child with high family morale is one who is happily adjusted in his home life. His relationships with the other family members, and particularly with his parents, from HIS point of view are characterized by mutual confidence, affection, and congeniality. His desires, purposes, and ambitions are to a relatively high degree integrated with, and not arrayed against, those of the family group.

In an investigation of the home environment in relation to personal adjustment, measures of individual "family morale" in a group of approximately 500 adolescent children were obtained by means of a scale of attitude toward home life. Those who scored high on the scale revealed a consistent attitude of acceptance of the leadership and guidance of the parents, and harmony with the purposes and procedures of the family group. They were the ones who most frequently indicated in their answers that they did not hesitate to talk frankly with their parents about their personal problems; that their parents did not resent such disagreement; that they usually tried out what their parents advised and that they thought that their parents usually gave pretty sound advice; that their parents never "made fun" of their mistakes but that they were inclined to overlook their mistakes or to help them to overcome them, that their fathers were not too busy to pay attention to the family; that their mothers were usually at home when they returned from school and that both parents showed real interest in their welfare by frequently talking over their future with them; that their parents seldom disapproved of their friends, but put forth effort to make visiting friends of the children feel "at home". In addition to these, and a number of other answers indicating confidential and congenial relationships between parents and children, they also frequently stated that meal time was a happy time in their homes and that breakfast was seldom a gloomy affair; that the various members of the family enjoyed personal hobbies as well as much family group recreation, in which they, themselves, participated and that they had a voice in deciding such matters

as the type of activity to be engaged in, or as to where the family would spend its holidays and vacations; that they seldom felt rebellious toward the family, or felt that the family "picked on" them and that they were allowed to "act their age" always; that they would enjoy being shut in with the family on a stormy day.

The "morale" score for each individual was simply the number of responses to the questionnaire items indicating this attitude of acceptance and harmony with the family situation. The scores were found to vary widely. They ranged from the attitude described above down to a feeling that the parents were unfair, dictatorial, and unworthy of confidence, and that little affection or congeniality existed in the relationships of the family group. The distribution of scores was fairly normal. Reliability coefficients based on several different samples were computed. These were all high (.91 to .94).

A number of factors were found to bear some relation to individual family morale. The ECONOMIC LEVEL OF THE FAMILY as measured in terms of material possessions, and cultural and social advantages which depend upon money expenditure, was found to correlate slightly (+.20) with individual morale. RATINGS OF THE FARM-STEADS, of those who lived on farms, were also available for study. These ratings had been made by farm management experts in terms of the general condition of the buildings and equipment, and other outward evidences of prosperity. The corrected coefficient of contingency between farm rating and the family morale of the children living on the farms was .31. These results suggest the extent to which the success of the family enterprise might affect the child's morale with respect to his family situation.

The personality adjustments of the parents undoubtedly are among the more important single factors determining the level of family morale since they are sure to affect the quality of the interpersonal relationships of the family group. From a sample of approximately 100 of the parents, both fathers and mothers, of our adolescent group were obtained scores on the Clark-Thurstone Personality Inventory and also on a scale of "emotional ma-

turity". These scores were matched with the family scores of their children and coefficients of correlation were computed. The results were as follows:

Personality adjustment of fathers—family morale of children	+ .22
Personality adjustment of mothers—family morale of children	+ .23
"Emotional maturity" of fathers—family morale of children	+ .25
"Emotional maturity" of mothers—family morale of children	+ .23

These coefficients are small but statistically reliable. They suggest that freedom from neurotic tendencies and reasonable emotional control on the part of both father and mother, favor high family morale in the children.

It is obvious, however, from the magnitude of the above correlation coefficients that the conditions which really determine individual family morale are still largely unaccounted for. Many children from families that rank very low in economic success apparently score relatively high in family morale while many from high ranking families score relatively low. Similarly, children whose parents, as judged by their test scores, are well adjusted and mature in their characteristic emotional behavior, evidently possess attitudes and feelings which are quite the opposite to high family morale. Clearly, a child's score on the family morale scale may not be taken as a valid index of the adequacy or desirability of the home environment in general. Neither may the excellence of the home environment, material and social, as judged by factors external to the child himself, be regarded as insurance of high family morale in the individual child.

These conclusions are supported further by the fact that the morale scores of the 84 sibling pairs of our group correlated only to the extent of +.23. This evidence of the lack of agreement between pairs of children from the same family definitely invalidates the individual morale score as a measure of the objective home environment, or any aspect of it, which is constant in its effectiveness from one child to another. The size of the score does not necessarily indicate that the home environment is generally "good" or "poor", or that the habits, attitudes, and ad-

justments of the parents are generally such as to render difficult the formation of congenial and happy relationships with ALL the children. On the contrary, a child's morale with respect to his family is largely a PERSONAL matter, depending upon PERSONAL reactions to the home situation, and upon the character of the relationships that have grown up between the individual child and his parents and other family members. Hence, the same general family situation MIGHT constitute quite different effective environments for children of different ages and varying temperaments and interests.

Much of this diversification in viewpoint and in reaction to family life is a natural outcome of the family experiences as such. Each family member must necessarily assume a unique role in family life. Save in the case of multiple births, there can be only one first-born, one oldest daughter, one second child, or one "baby sister". Each child must play the particular role into which fate has cast him. Many of the attitudes of the other family members toward him are determined by his position in the family. They react to his behavior and deal with him according to his family role. The role itself and the treatment or restrictions it entails are sometimes resented. In other instances roles are accepted without conflict and are practiced with much satisfaction. Thus, as family roles are assumed and practiced, personalities begin to take form. What perhaps were slight original differences in temperament, or in energy or motivation might develop through conditioning of this sort, into relatively large individual differences in personality trends among children of the same family.

Without proper parental care and direction, this diversification in personal development, together with age differences and the associated differences in family treatment, might bring about in one child an extremely critical and even bitter attitude toward the same parent and the same general home situation to which the other children make happy adjustments. Many such instances of parental failure—instances of the "difficult", poorly adjusted or wayward child in the "good" family—might have been forestalled

by better understanding and more sympathetic parental guidance of individual children.

The problem for the parent, then, becomes that of gaining insight into the peculiar situation of each child from the standpoint of the child himself. SELF-insight on the part of the parent is also essential in order that he be able to distinguish clearly between his own purposes and desires and the peculiar needs of the child. Such insight furnishes the basis for wise parental guidance and the establishment of helpful and happy parent-child relationships with all the children. This means good family morale which, without doubt, is the condition most favorable to the achievement of superior social adjustment and personality development.

Evidence showing the importance of family morale in relation to general personality adjustment was obtained in the study referred to above. Scores for these young folk on the California Test of Personality (devised by E. W. Tiegs, W. W. Clark, and L. P. Thorpe) were obtained. This test provides measures of "self-adjustment" and "social adjustment", each of which may be broken into six components. A total personality adjustment score also may be obtained. This score is a combination of the scores for the 12 adjustment components. The coefficients of the following tabulation indicate the degree of relationship which was found to exist between family morale as measured and these adjustment scores:

Self adjustment	+ .50
a. Self reliance	+ .27
b. Sense of personal worth	+ .32
c. Sense of personal freedom	+ .55
d. Feeling of belonging	+ .44
e. Freedom from withdrawing tendencies	+ .46
f. Freedom from nervous symptoms	+ .33
Social adjustment	+ .62
a. Social standards	+ .27
b. Social skill	+ .42
c. Freedom from anti-social tendencies	+ .44
d. Family relations	+ .65
e. School relations	+ .43
f. Community relations	+ .36
Total adjustment	+ .62

"Total adjustment", as well as the part score, "social adjustment," correlates with the morale score to the extent of + .62. With "self adjustment" the correlation is + .50. As might be expected, the component, "family relations" bears the closest relationship with the family morale score (+ .65). These relationships indicate that those adolescents whose adjustments to home life and whose personal relations with their parents, were not happy (low in family morale) tended strongly to be the same individuals who had difficulty in their general social contacts and adjustments in the world outside the home.

It is extremely important, therefore, from the standpoint of child welfare and family success, that parents give special attention to family morale. They must, first of all, realize that for each child in the family the problem is unique. The general adjustment situation—the family role which he must assume and the difficulties and satisfactions involved—as well as his original temperament and his natural endowment all combine to make his case different from every other. It is through insight into the unique problem of each individual child that the parent is able to establish helpful relationships with all his children and insure a happy and harmonious family life. In such a family, the goals and activities of the family are accepted as worthy and important by the family members. Individual purposes are usually integrated with those of the group, and the leadership of the parents is accepted with confidence. In short, family morale is high. In such a family situation numerous experiences in co-operative activity and other forms of social interaction are provided for the children. Thus, high family morale is essential to what is perhaps the most important remaining function of the family, namely, to foster desirable personality adjustments and social development.—L.H.S.

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FEAR. The average person does not realize what a tremendous part fear plays in the lives of most people. Nor does he understand that most are not fears of objects but rather of social situations, of relations with other people, and of personal weaknesses, inferiorities, and shortcomings, either real or imagined. The devastating effect of fear in the lives of people and on personality development is much greater than is generally realized.

Fear is one of the basic emotions of man and undoubtedly it has had much to do with his survival and the evolution of his mind. It still has survival value when associated with things that endanger life. Hence a legitimate use of fear is the development of caution regarding matters of health and safety. Fear of disease, when it prompts foresight and action leading to care and prevention, and observance of health rules is a legitimate and constructive use of fear. The same is true of fear that develops caution and foresight in regard to business and social relations. The fear that stimulates ambition and purpose must be regarded as wholesome and desirable rather than as a weakness. Similarly the fear that leads to the observance of laws, customs, and socially desirable conventions has its positive and constructive values.

Most fears, however, are illogical and unreasonable, and a detriment rather than a help to the individual in his normal relations with his fellows as well as in his personal organization and the expression of his personality traits.

CHILDREN'S FEARS. Considerable research has been done on children's fears for the purpose of discovering the kinds of fears children have, their causes, and ways of preventing and removing them. Among the common kinds of fear children have are fear of the supernatural, of death in general and of parents' in particular, of mystery, corpses, animals, the dark, of being different from others, of being inferior, of punishment, of failing in studies, of competition in studies and games, and of ridicule.

There are numerous causes of children's fears, many of which are brought about unwittingly by parents and teachers. Children are very suggestible and

because of this they acquire fears easily. Mothers who show signs of fear and nervousness in the presence of their children, say of thunderstorms, noises at night, darkness, dogs, sickness, or any other phenomena, readily start these fears in their children.

Fear of the dark is often created in the child by unfortunate references and suggestions made by adults about dangers that lurk in the dark, as well as by their own cautious and nervous behavior about it. Association with older children who are afraid often starts fears in younger ones. A four-year old child who showed no fear of the dark suddenly developed such a fear by being told that the "bogey man" would get her.

Often threats by parents or servants will unintentionally create fears in children. We do not refer here to normal cautioning and warning that has desirable, protective, or stimulating effects, but rather to threats that create unreasonable fears, such as fears of being sent or given away, having the policeman come and take you to jail, giving away brother or sister, and the like.

Children who are treated severely or harshly and who are punished and blamed severely for their misbehavior develop fear, timidity, and cringing habits that are devastating to their personality. Hostile and domineering treatment easily produces feelings of inferiority that lead to discouragement and failure.

A word should be said about fears induced by too exciting reading and thrilling radio serials, and movies. Night terrors are frequently caused by over-excitement and emotional tension caused by such experiences. Sleeplessness and restlessness, fearful dreams, and sleep-walking are not uncommon consequences of too much emotional excitement and intense stimulation.

Over-cautious parents are likely to develop fears and timidities in their children. One family known to the writer made little neurotics of their children by continually harping on cleanliness, germs, and disease, and keeping the children isolated from others. Caution has its proper place in child training, but it must not be carried so far as to interfere with the normal life of the child.

PREVENTION OF FEAR. Intelligent parents and teachers will take a serious attitude towards children's fears and will seek to prevent the occurrence of needless and useless fears. The first step in the prevention of fear in children is to recognize that fear is a devastating reality to them and so must not be treated in a casual, light-hearted or trivial manner, as if there were nothing to it, or it did not exist.

Prevention consists of avoiding fear-producing situations or, if this is impossible, of preparing the child for the experience in advance, thus robbing the fear-producing situation of its potency. Many a disabling fear can be prevented by preparing the child in advance for new and unusual situation by means of explanation, practice, encouragement, and reassurance. Knowledge and understanding help to prevent fear. One child when he found himself getting worried or fearful about stories, or pictures, or radio dramatizations, would reassure himself by saying, 'it is only make-believe.'

Many fears that are due to superstitions and ignorance can be prevented and cured by talking them over and explaining how, before the day of scientific knowledge, people believed in such things.

It is known that sudden and unexpected situations have a tendency to produce fear, hence young children should be protected from sudden disturbances, noises, and excitement.

REMOVING FEAR. There are a number of ways that are helpful in removing children's fears. One is to have the child verbalize his fear. Parents who understand the reality of children's fears and treat them seriously, will have many opportunities not only to discover that children have more fears than they suspect, but they will also have opportunities to help remove these fears. When children feel free to talk over their fears without fear of being laughed at or ridiculed, they will talk them over with their parents. Talking it over, giving explanations, and offering suggestions, removes many of the common fears of children.

Fears may be removed by the process of reconditioning. This means associating pleasure and satisfaction instead of fear with the object or condition

now being feared. Fear of the dark may be removed by playing games that make darkness desirable and pleasant rather than unpleasant and fearful. Fear of dogs can be changed to liking them, by having the child play with toy dogs, or with a small pet dog so that a pleasurable association is developed.

Activity is often effective in dispelling fear. Stimuli that normally would produce fear are diverted or go unnoticed when energy is directed into other and often more pleasurable activities. Singing and whistling are common examples of dispelling fear by means of activity.

Helping children to develop skills and overcome weaknesses is an effective method of removing either physical or social fears. Fears due to inferiority feelings can be cured by this method, as can also fears centered around weakness in school subjects. A child that suffered from fear of reciting was helped to overcome this timidity by being encouraged to talk over her work at home. The added assurance of knowing thoroughly what to say removed much of the fear of saying it. A little help given a child on his arithmetic problems was enough to remove his fear and dislike of arithmetic. The same is true of removing fears centered around physical things. A little help in swimming will remove fear of water and of swimming. Helping the boy or girl develop skill in dance steps or skating, or dramatics, or playing games, goes a far way in removing many social fears that they may have.

Finally, some kinds of fears may be removed by the principle of disuse. Nature, by the process of forgetting, removes some fears by having them fade out gradually. Avoiding situations that tend to keep fear alive permits the law of disuse to operate in the emotional field just as omitting practice permits it to work in other fields of learning.—A.D.M.

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FEEBLE-MINDEDNESS. See **MENTAL DEFICIENCY.**

FEEDING PROBLEMS. Feeding difficulties are more numerous and serious than all the other problems of infancy and childhood. This is undoubtedly due to the close relation between the child's digestive system and his emotional nature.

I. THE PHYSIOLOGY OF EATING. Since the baby is born with the sucking impulse fully developed, this being one of the very few natural endowments which he brings into the world with him, the problem of feeding the new-born infant is greatly simplified.

1. SUCKING. The apparent simplicity of the sucking mechanism is very deceiving, for it is really complicated, combining a hookup between the muscles of the mouth and the nerve centers of the lips and tongue. The action is begun by a slight protrusion of the lips, which are then compressed on the nipple, and there immediately follows a series of movements of the tongue, cheek, and uvula.

2. MASTICATION. While the infant is a master of sucking, he does not know how to masticate, although his early ability to bite is a promise of his future successful manipulation of the mastication mechanism. He sucks instinctively, but he has to learn to coordinate the muscles of mastication.

The nerves in the little baby's mouth seem to be sensitive chiefly to taste and to liquids. Subsequent to weaning, he recognizes bulk and perceives the difference in the consistency of the food he takes into his mouth.

3. SWALLOWING. On first thought, because of their close association, swallowing might seem to be a part of the act of sucking, but this is not the case. Reduced to simple terms, swallowing is begun by a very brief but almost complete obliteration of the pharynx, which is due to the simultaneous raising of the larynx and the backward movement of the tongue, a movement that almost entirely closes the mouth, nose, and larynx. The sud-

den relaxation of the associated muscular mechanism produces a negative pressure that instantly sucks the food in the mouth into the esophagus.

4. HAND TO MOUTH. The child does not inherit the ability to engage in the hand-to-mouth movement, but he acquires it very early. The very young baby seems to associate with breast nursing such hand movements as playing with his mother's clothing; but when he is learning to feed himself while sitting up, he is obliged to master the co-ordination of the many muscles of the shoulders, arms, and wrists.

II. FEEDING BEHAVIOR. To begin with, the infant seems to be contented simply to nurse, often with his hands clasped or holding on to his mother's clothing or to the bed coverings. After a couple of months, the breast-fed baby has developed an association between touching his mother's face and nursing and protests vigorously if he is not allowed this pleasure; his cry in this case is not the same as that caused by removing him from the breast or by taking away the bottle, if he is bottle-fed.

1. HUNGER CRYING. The healthy infant usually has a vigorous cry before feeding time, particularly if the time between feedings is a little too long for his appetite; but most babies will stop even this hunger cry if they are taken up, the diversion being sufficient to cause them to forget the **HUNGER CONTRACTIONS** in their stomachs, with which, by the way, appetite is closely associated.

2. FEEDING ASSOCIATIONS. By the time the child is eight months old, he associates many things with his feedings. If he is nervous and not well trained so that he grows restless as he watches his mother prepare his food, he would be better off if he were kept out of the room until his meal is ready. It is entirely natural and normal for him to manifest this eagerness as he is being put in his high-chair.

As he gets older, twelve to fifteen months, he will express his hunger in other ways, such as running to his high-chair as it is being put at his place at the table, and by eighteen months he may even try to climb up to the table. When he is a year and

a half, the average child will begin to use single words about his meal, as "hot," "cold," or "good"; and by the time he is two years old, he will express his enjoyment or dislike of his meals in single sentences.

3. **EXCESSIVE ACTIVITY.** By the time he is nine or ten months of age, the little fellow may be so active that it is difficult to get him to eat. He is not satisfied to look around the room during his mealtime but wants to be constantly doing something with his hands. There is no harm in letting children jump up and down while eating and so satisfy their excessive desire for action provided they are first carefully strapped in their cribs or buggies.

When the child is well along in his second year, he usually learns to sit more quietly during his meals. He should take less interest in toys and surroundings and should become increasingly engrossed in feeding himself. By the time he is fifteen months old, the average youngster likes to help get the spoon to his mouth and not long after this will begin to feed himself in earnest.

4. **MEALTIME PLAY.** While authorities do not agree as to whether children should be allowed to play with toys while eating, some of them seem to do so much better if they are given some simple playthings that it is sometimes a good plan to allow them reasonable freedom to play during mealtime. Much depends upon the child. The play tendencies of six- or seven-months olds can sometimes be taken advantage of to improve their poor appetites and to overcome their resistance to food.

5. **NURSING POSITION.** When a healthy baby is five or six months old, he is likely to be so anxious to sit up that nursing is badly interfered with. Many a mother begins her first real contests of wits and wills with her baby in meeting such a situation. If his emotions are not too greatly disturbed, and if a personality contest can be side-stepped, he is almost certain to make up at one meal for what he misses at another. Eating and sleeping are only a part of his experience; he must likewise interest himself in his surroundings and learn to explore them. It is also advisable to give

these little folks reasonable liberty in choosing their nursing postures.

III. **FEEDING TECHNIQUE.** Grandmother used to feed her babies quite irregularly, usually being guided by their restlessness and crying. Then followed a period during which pediatricians tried to improve these haphazard methods by feeding the child by the clock. But today we know that grandmother was partially right—the little fellows' individual needs must also be considered as well as the approved feeding schedule.

1. **FEEDING PLAN.** The methods employed in feeding a child have a greater influence on his physical and mental health and emotional reactions than does any other single phase of nursery hygiene. Some authorities even go so far as to claim that feeding is almost as important as everything else combined.

All babies are not alike in adjusting themselves to formal feeding schedules, some taking to them much more readily than others. The best plan for a mother to follow is to begin with a generally accepted schedule and then, in consultation with her physician, to study her child so as to decide whether the time between feedings should be shortened or lengthened; and in all of this she should bear in mind that changes must be made from time to time, depending on fluctuations in the baby's surroundings and behavior. Obviously, the baby who usually cries a half-hour or so before every feeding time should be fed more often, for otherwise he will be upset emotionally, and the emotions and digestion are very closely related; on the other hand, the one who regularly sleeps beyond this feeding time should be fed less often.

Even if a satisfactory feeding schedule is worked out by the time the baby is five months old, provision must still be made for reasonable variation in order to insure his nourishment and emotional satisfaction. The time at which he is fed and even the food itself must be changed to meet the needs of his changing habits (he wakes up earlier in the morning and does not sleep so long at his daytime nap periods) and his growing body.

2. **EMOTIONAL STABILITY.** It is not a fact that changing the baby's

feeding schedule to meet his apparent needs will cause him to indulge his whims in other directions. His individual nutritional needs are satisfied, and his emotions are stabilized by this personalized feeding plan, and this contributes to his contentment and happiness and prevents the early arousal of fear, anxiety, and nervousness. Such intelligently flexible early schedules prepare the groundwork for an effective mental-hygiene program throughout childhood.

3. FEEDING TIME. Twenty to thirty minutes is not too long for feeding during the first month, although the time must be varied with all bottle-fed babies. Thirty minutes should probably be taken as an average for the combined meal and bottle after the first six months. A little longer time may be allowed when the little fellow takes four to eight ounces of milk over and above his ordinary allowance, and this is not unusual just before a nap or before he goes to bed at night.

While a very nervous child will sometimes want to rush through his meals, the youngster who feeds himself will often dawdle over his eating. There are two types of dawdling: Some children simply take little interest in eating; others will hold the food in their mouths without chewing it, or they may spit it out. Sometimes this is caused by their attention being diverted from eating to what is going on around them, or the dawdling may be an attempt to get out of eating something that they do not like.

4. EATING DELAYS. Playing the "hour-glass" game at mealtimes is often effective in overcoming dawdling. This is played by trying to finish the meal before the sand runs out of the upper part of a half-hour glass. Careful studies show that children do not ordinarily spend over thirty minutes at the noon meal, the longest of the day, so that it is safe to consider a half hour as the standard time for this meal; breakfast and supper, of course, need not be quite so long.

At the expiration of the normal mealtime, it is usually best to take away the food. The little fellow may then cry for it, but it is not so bad for him to miss all or part of a meal as it is to bolt his food at the end of the allotted time. The healthy child

will make up at one meal what he may not have eaten at another, so that no harm will follow from missing all or part of a meal.

The child is not slow to discover that his mother is anxious about how much he eats or how he eats, and he is quick to sense the fact that he is becoming the center of attention because of his bad eating habits. Children love attention, and if they find that eating misbehavior gets it, they will promptly develop some first-class feeding problems.

5. EMOTIONAL ATMOSPHERE. It is often possible to solve feeding problems by having some cheerful, pleasant person other than his mother feed the child. When a mother is worn out by her many tasks, it is easy for her to start bad reaction habits in her children, no matter how earnestly she may try not to. The meal hour should be one of the happiest times of the whole day for the little folks, wholly free from haste, confusion, and worry. Unfortunate results are sure to follow the association of unpleasant experiences with the meal hour. The grownups can do a great deal to promote good eating habits in the children, when they begin eating with the family, by being enthusiastic about the food, but even then reasonable variety in the diet is necessary, notwithstanding the fact that younger children usually dislike new dishes.

6. ANGER AT MEALTIME. The last place to discipline a child or to attempt to display one's authority over him is at the table. His appetite will be interfered with and his digestion upset if he gets angry, to say nothing as to what the effect will be on the offending parent. Normal digestion is predicated on a happy, cheerful frame of mind.

7. ALLERGY. So many people are allergic to various foods which produce hives, itching, eczema, and other conditions that parents should be on the lookout for them very early and should see that they are eliminated from the children's diet.

IV. APPETITE. There is nothing much more uncertain than appetite, whether in children or adults. Babies who do not eat well frequently build up a violent resistance to food; unless these little folks are skillfully handled,

a running feeding battle is likely to develop.

1. **POOR APPETITE.** It has been found that babies who do not eat well usually sleep a great deal more than does the average child. In babyhood the eating and sleeping systems may be competing for development, and it is possible that in babies who eat poorly the sleep mechanism may be getting the better of the eating neuromuscular hookup. The hunger contractions of these sleepers may also be weak because they exercise less than the wide-awake youngsters.

These babies who sleep too much should not be awakened at feeding time. Better to get them to nurse while asleep, which can be easily done if they are bottle-fed. It is of course important to bear in mind that poor appetite is often a principal symptom of **POOR HEALTH.**

2. **CLEVER FEEDING.** When supplemental foods are being fed to very little children, their appetites cannot be depended upon as guides for their feeding. Their sharp hunger may be satisfied before they have taken sufficient nourishment; when this happens, only the most skillful management can get them to finish the meal.

A well-nourished child between nine and twelve months old may sometimes refuse his early morning bottle or nursing; this may be because he really does not need it. An effort to force him to eat in such circumstances may cause him to develop a persistent feeding resistance.

3. **COMMON CAUSES OF POOR APPETITES** are such emotional upsets as temper tantrums and anger crying spells, too great stimulation of the nervous system just before feeding, and stubbornness—negativism. Among older children poor appetite is caused by too liberal meals, by too frequent feeding of new foods or those which they dislike, by constipation, adenoids, and diseased tonsils. Appetite is very frequently disturbed by teething.

4. **STANDARDIZATION.** Some feeding troubles are due to too strict adherence to a standardized feeding plan. A monotonous diet is as bad for children as for adults. If mothers would not be too insistent that their children eat all the food they serve them for any one meal, the chances would be

much better that the little folks would have keen appetites for the next one. Height and weight tables should not be taken too seriously. They are valuable in dealing with broad averages, but by no means should we attempt to gauge every case by these standards.

5. **TEASING.** A child's appetite and digestion are interfered with by teasing, fear, anxiety, worry, insecurity, or any emotional disturbance in his mind or in his mother's or between them; and of course the less he eats, the more she worries, and the less able she is to view the situation objectively. She soon ceases to regard the feeding of her child as a problem in human nutrition. When he begins to go to school, many outside happenings about which his parents know nothing will spoil his appetite. A child of a nervous temperament is almost certain to make trouble over his eating.

6. **ANXIOUS MOTHERS.** Maternal anxiety is especially aroused when the child has a positive personality, for such youngsters are likely to keep up the fight. In an attempt to avoid the tense emotional situations of these feeding contests, mothers resort to various devices; in dealing with the older children they tell stories and play games but often lose their patience and actually become hysterical. Sometimes they use force, and this, of course, usually means that the meal will be vomited within a few minutes.

7. **OVERCOMING POOR APPETITES.** Do not coax a child to eat or threaten him with punishment if he refuses to eat. And on no account ask him to taste something with the promise that he need not eat it if he does not like it.

In studying poor appetite it is important to look the situation over and try to determine whether the child has had enough fresh air and sufficient exercise to stimulate a good appetite, and the necessary sleep and rest. If he has remained up after his usual bedtime, he will probably not be hungry for breakfast the next morning. In this case a little outdoor exercise before time for the noon meal may sharpen up his appetite. If he has been exercising actively or is overstimulated emotionally, let him rest fifteen or twenty minutes before mealtime, and he will probably eat well.

If he refuses to eat, leave the food on the table the customary thirty minutes and then make it clear to him that he will get nothing more until the next meal. And see that this "promise" is kept. He should be given nothing between meals but unsweetened fruit juice—no candy or cookies. On no account try to force him to eat. If this is done, he may always thereafter refuse the particular food he has objected to.

8. STARVATION TECHNIQUES should not be resorted to with very little babies. Withholding food from them for several meals in the hope that they will eventually get hungry merely increases their resistance to food, often causes a distressing diarrhea, and predisposes them to various infections, and all this still further dulls their appetites. This vicious circle increases their mothers' emotional distress and unfits them to do their best for their little charges. It would be much better to try to find the high peaks of these poor appetites and, working from them, gradually to increase the food intake.

9. EXCEPTIONAL APPETITES. Little folks who are growing fast, particularly if they are very nervous, frequently have big appetites, although not such voracious ones as do feeble-minded children. Youngsters often crave some unnatural food or some nonfood substance. These abnormal appetites need cause no particular anxiety as they disappear after the second year.

V. WEANING. A carefully planned and executed weaning program should not particularly disturb a baby. Although the techniques with breast-fed and bottle-fed infants are not identical, they both involve nothing more than a series of transitions from breast to bottle (with the breast-fed child), from bottle to cup, from liquid to solids, and finally a larger and larger variety of foods is added to the diet until the little folks are eating about the same as the grown-up members of the family.

1. REFUSAL TO NURSE. Sometimes a six-months-old bottle-fed baby suddenly and with no apparent reason (unless it is aversion to the rubber nipple) will refuse his bottle. It may be necessary then and there to begin spoon feeding or, if he is old enough, cup feeding. Teething may be responsible if this occurs around seven or

eight months; in these cases the cup may also be refused. It is a good plan to offer the bottle at each feeding before the spoon or the cup, for the little fellow may accept it; the bottle should not be forced upon him because that will only increase his antagonism and food resistance.

While children ten to twelve months old often refuse the bottle and drink from a cup during the day, they may want the bottle before their naps and before going to bed at night.

2. SOLID FOOD. Many liquid and semisolid foods are gradually added to the child's diet as he is being weaned from breast or bottle. The neuromuscular mechanism is so well developed in some children that they can take semisolid foods when three months old, but it is considered better not to feed them such foods until they are four to six months of age. They have trouble in using the masticating mechanism even at four or five months and often form an unpleasant spitting habit.

3. SPITTING. The fact that a baby spits out a new food does not always mean that he dislikes it; its strange flavor and unaccustomed texture have perhaps taken him by surprise. He will probably get along all right with such solid foods if you do not again offer them to him for a week or two, for the nerves and muscles having to do with chewing will have been better coordinated; this, with improved tongue control, which develops about this time, makes it a great deal easier for children to manage solid foods.

4. NEW FOODS are most readily accepted at the evening meal, for the youngster is most amiable and sociable at that time of day. They should be given, a teaspoonful at a time, at the beginning of the meal, along with, or just before, something he likes. He can be fed a larger amount of the new food every second or third day. After the little fellow learns to eat it at night, it can be added to his morning meal.

5. SENSIBLE METHODS. If the youngster cannot be prevailed upon to eat the new food, it may be best to withhold something he likes very much, dessert for instance, until after he has eaten a little of the new food.

Rather than repeatedly to offer the child a new food he does not like, it is a good plan to omit it for two

or three days, giving him a small amount every second or third day until he eats it; if it is not offered for five or six days, he may not connect the second feeding with the first, and that will mean beginning all over again. Rejected foods can be served in soups or with something else the little fellow likes, but it is very unwise to force them upon him.

6. **EXTRA HELPINGS.** Serve the new foods in small amounts, better too little than too much. The second-helping idea appeals to children, and from it they learn to feel that they are good eaters.

7. **FEEDING NEW FOODS.** The Minneapolis Community Health Service has published a series of leaflets on infant feeding from which the following suggestions about introducing new foods to older children are taken:

CEREALS: 1. Start with very small amounts.

2. Introduce one new cereal at a time.

3. Serve a variety of cereals so that the child will not tire of any one kind.

4. Provide the child with his own cereal bowl and pitcher.

5. Use coconut, brown sugar, prepared breakfast foods, or fruit juices over cooked cereals.

6. Cook fruits in cereals, as prunes, raisins, dates, or figs.

7. Serve with jam or jelly.

8. Pour cereals into moulds and serve cold.

9. Occasionally serve cereals for supper instead of for breakfast.

10. To increase the food value, cook cereals in milk and cream.

VEGETABLES: Introduce one new vegetable at a time and serve only small amounts. Vegetables may be served in the following ways:

1. Sliced or cut in attractive shapes and creamed.

2. Served with butter.

3. Combination of several (serve new vegetables with others which the child likes).

4. Vegetable cream soups.

5. Vegetable juices as clear soups.

6. Vegetable salads—cooked or raw with boiled dressing.

7. Jellyed vegetables.

8. Vegetable meat loaf.

9. For sandwich fillings.

MILK: Ways of tempting children:

1. Drinking through straws.

2. Allowing child to pour his own milk from a small pitcher.

3. Using a colored tumbler or a glass of unusual shape.

4. Putting valsparrred pictures in bottom of glass, to be discovered when glass is empty.

5. Using a glass measuring cup, so that the child can make a game of measuring the amount he drinks.

To make delicious and attractive milk drinks:

1. Always serve fresh milk—do not allow it to stand uncovered.

2. Add vegetable coloring.

3. Put two or three raisins in a glass of milk.

4. Add beaten egg and flavoring.

5. Change the flavor slightly by adding one of the following:

a. A teaspoonful of cocoa syrup or a few drops of vanilla.

b. A tablespoonful of butterscotch sauce, molasses, or corn syrup.

c. A few grains of cinnamon or nutmeg.

d. Three tablespoonfuls of fruit juices—shake well in tightly covered jar.

VI. SELF-FEEDING. The time comes sooner or later when a baby seems to want to feed himself, sometimes when he is nine months old, sometimes not so early. Whenever he manifests an interest in self-feeding, he should be patiently taught to use a spoon.

1. **SELF-FEEDING IMPORTANT.** Every child should learn to feed himself as early as possible, for this both makes his care easier for mother and also is an important factor in his early personality development—in giving him independence, self-confidence, and initiative. The sooner he can feed himself, the less trouble there will be because of the friction which arises between mother and child over mealtime disagreements.

2. **EATING BY HIMSELF.** Among the reasons why the little fellow who is learning to feed himself should eat alone or with a preschool brother or sister, is that he will not expect to be given unsuitable "grown-up" food, and his attention will not be diverted from his eating by the activities of the family meal hour. Although an adult should always be near by to help him in an emergency, he should be permitted to master his problems by himself just as far as is possible.

3. **EATING WITH THE FAMILY.** As to when a child should begin eating with the family depends in part on his temperament and in part on the size of the family. By the time he is three years old, it is wise to have him eat at the table sometimes when a simple meal is being served. He will gradually become accustomed to the eating habits of older people and can be interested in improving his table manners so that he can be permitted to eat with the family regularly. When he is through, he should be allowed to leave the table and go on with his play.

4. **MEALTIME NEGATIVISM.** Since negativism appears early and develops gradually until its peak is reached at about the thirty-sixth month, the mother has it to contend with during the time the child is learning to like new foods and to form new habits of eating. This negativism will only be accentuated if the youngster sees that his mother is disturbed about his eating, so that her anxiety about calories and vitamins, which leads her to insist that he eat certain foods, may greatly stimulate his feeding resistance.

5. **SENSIBLE METHODS.** The best way to meet this situation is to teach the child early that eating is his business. Put the food, which of course should be tasty and nicely served, before him, leave it there thirty minutes, and if he does not eat it, quietly take it away. One mother sat down with her little boy at the dining-room table with her wrist-watch before her and a magazine in her hand. On his refusal to eat, she looked over, tapped his wrist twice to secure his attention, and then, pointing to the food, calmly said, "Eat!" and returned to her reading. After eight or ten repetitions in the next thirty minutes the idea got across to the little fellow that he was supposed to eat. After a few days he "ate like a major."

An older child can often be persuaded to eat by being told that the doctor has ordered certain food.

6. **RESULTS OF SOLVING EATING PROBLEMS.** Nothing in the whole category of child-training difficulties is more disturbing than the chronic refusal of a child to eat. At the same time the greatest opportunity for developing the sterling qualities of independence, adaptability, self-control,

and stamina lies in the successful solution of this one problem. Of course an adult can force a child to eat, but the cost of such tactics is too heavy—great harm is done to the confidence, independence, and affection of the little fellow. As a result, he may soon acquire other bad habits that are equally, if not more, distressing.—W.S.S.

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FERAL CHILD. One approach in determining the relative influence of heredity and environment upon the mental growth of children is the study of alleged wild or animal-reared children. Data on such cases are expected to throw light particularly on the question as to the permanent influence of the early animal environment and social deprivation upon the later training and socialization of the individual. The first wild child was reported in 1344 and feral man has been recognized as a scientific problem at least since 1758, when Linnaeus listed the term *Homo ferus* in the tenth edition of his *Systema Naturae*.

A total of thirty-one feral children, according to the literature, which has been compiled by Singh and Zingg, have been discovered to date, twenty-two having been reared by animals. The species of animal alleged to have cared for the child in each case is generally a function of the country in which the child resided and tends to conform to the mythology and folk lore of that particular part of the world. Most of the cases of feral children reported were found in India and all except two of these were nourished and reared by wolves. A few have been reported in Lithuania and were cared for by bears. This consistency has been noted down through the decades despite

the fact that both wolves and bears have had a very wide distribution geographically and that certain other animals which might have played the role of foster parents to such children were also widely distributed.

Linnaeus characterized feral man as *TETRAPUS*, *MUTUS*, and *HIRSUTUS*. Few, if any, of the children described were covered with hair but most of them were mute and tended to run on all-fours. Furthermore, they feared other human beings when captured. The question arises as to why these characteristics have been outstandingly present among the cases described. Dennis gives a good discussion of this point, the import of which is somewhat as follows. The question has several possible answers. First, one may accept the hypothesis that the children were lost in early infancy and assume that they were cared for by wild animals. The early introduction into and continued existence in such an environment disqualified them for taking advantage of the cultural opportunities provided them after being restored to human society. Secondly, one can hold that children can survive in the wild state even though abandoned in very early infancy. Thirdly, one may postulate that children merely lose their upright mode of locomotion and their social habits when human contacts are terminated. Lastly, one may assume that such children were equipped with a very low grade of mentality to start with.

Documentary evidence concerning age at abandonment and conditions under which existence was maintained until capture is lacking in each of the cases described. Therefore, difficulties are presented when one considers each of the first three hypotheses. Many scientists, therefore, are inclined toward the hypothesis that alleged wild children were feeble-minded from infancy. The following are some of the reasons supporting this hypothesis.

Walking on all-fours, which is characteristic of these children, is also found in many idiots. Probably the wild child employs the quadrupedal method of locomotion because he cannot use the bipedal method without extensive training. Muteness, another characteristic of wild children, is also found in idiocy and low-grade imbecility. Ka-

mala, one of the feral children of India, described by Singh and Zingg, was captured at the age of eight years and lived in the Midnapore Orphanage until she was sixteen years of age, the age at which she died. While in the Orphanage she received constant attention and thorough training; however, minded child. The sounds the feral ed only fifty words, a vocabulary equivalent to that of a low-grade feeble-minded child. The sounds the feral child makes are alleged to be beast-like, but they are also very characteristic of idiocy. The feral child after capture has little if any interest in other people, being content to remain in as complete isolation as living conditions will permit. But experimental studies reveal the same tendencies at the lower levels of feeble-mindedness. The uncleanness and the beast-like eating habits and food preferences of the wild children also tend to be duplicated in the feeble-minded. Finally, the lack of sensitivity to extremes of thermal and other forms of cutaneous stimulation and also the disregard for the need of common creature-comforts observed in the beast-like children are likewise closely paralleled in mentally defective individuals.

One objection to the mental deficiency hypothesis is that the laws of probability would operate against the supposition that all so-called beast-children are feeble-minded, and the facts show that in a few instances the subjects were not feeble-minded. In response to this objection, however, it may be suggested that feeble-minded children are much more likely to stray away from home, become lost, be voluntarily abandoned, or driven away from home, than are normal children. Furthermore, feeble-minded children are more likely than normal children to be classified as wild children, even though both types may be discovered under similar circumstances.

Another objection to this hypothesis is raised by the question as to how feeble-minded children could sustain life under such rigorous conditions as are supposed to prevail in the wild state. The answer is suggested by the fact that in few, if any, of the cases can the length of the period spent in the natural state be even approximated. In most instances probably it was relative-

ly short and the demands for ingenuity and adaptability in supplying the simpler physical needs were not great.

In conclusion, it may be stated that the factual data on the feral child are most inadequate at the most crucial period in the child's history, namely, the period from abandonment to reinstatement in a human environment. Until these data can be supplied, no final conclusion can be drawn as to the innate mental potentialities of the child. Correspondingly, no deductions can be made as to the specific influence of the environmental restrictions, great as they may be, upon the mental and social development of the child.—M.O.W.

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FINGER PAINTING. Fingerpainting is a variety of painting activity which differs from ordinary painting in the kind of tools and consequently of technique.

1. **MEDIUM.** The paints used are tempera pigments to which is added a starch binder; they are mixed with water. Spatulas are used for transfer of paints from their containers. For the application of the paints the fingers are used instead of brushes.

2. **PROCEDURE.** In order to make a finger painted picture or pattern a sheet of paper is drawn through water, the excess water allowed to drip off and the wet paper laid flat on some washable surface, such as linoleum or enamel. The colors are applied in daubs, then mixed and smeared over the wet surface with wet fingers until the entire surface is covered and the colors are of a creamy smooth consistency.

3. **TECHNIQUE.** The technique depends on the use of the fingertips of one to all five fingers of one or both hands, and therefore involves fairly wide lines. The fingers may operate with light or heavier pressure, thus varying the effect per stroke. The technique is conducive to freedom of movement and blending of colors. Since the whole

thumb or the whole side of a hand can be used, comparable to the movement with which some object can be brushed off a surface, wide areas can be created with a single hand movement, as well as additional details added with finger movements. The effects of this technique show in certain unique limitations and advantages. Because of the large-sized single lines details must be limited; compositional details are bound to be large sized; texturing can be more easily accomplished than through other techniques; the illusion of the three dimensional in objects—modeling—can be obtained without the perspective as well as the feeling of handling a modeling medium in spite of the flat paint technique.

4. **THERAPEUTIC VALUE.** Besides the general satisfaction which the medium offers and which is not different from that obtained through other media, this technique is superior to others regarding its use by very young children. The latter can trace on paper directly with their fingers as they also do while playing with sand or mud, without using an intermediate tool such as the brush, and yet they are able to retain a permanent record of their activity. It satisfies younger children's urge and satisfaction of handling mud or dirt. Simultaneously it represents an approved activity, thus combining a 'dirty' activity with a 'pleasing' result. This fact, combined with the ease of expression and the possibility to change the whole picture or parts of it several times before tiring of the activity has been found to be successful in the diagnosis of emotional disturbance where direct approaches were either inadvisable or unsuccessful. Furthermore it has been found to be an especially successful form of emotional release without the destructive effects of other outlets.

5. **MEANS OF ANIMATED ILLUSTRATION.** The technique is a startling and helpful means of illustrating children's stories while telling them. It allows changes of the parts, thus permits the gradual creation of a picture of the objects and the situation of which the story treats and in the course of the story it is possible to alter objects or their situation several times, thus acting like an animated cartoon. For the entertainment or instruction

of a group of children by a teacher capable of using this technique, this means of a primitive and simplified visual demonstration is almost unequalled, because of its inexpensiveness, simplicity and variability.—B.L.H.

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See: PROJECTIVE TECHNIQUES.

FOSTER HOMES. Private institutional care for children in the United States appears to have dated from the establishment (1729) of the Ursuline convent plan of foster care in New Orleans following the Natchez Indian massacre. Ohio (1866) appears to have been the first state to authorize county children's homes, while Massachusetts (1868) initiated the plan of boarding dependent children with private families at public expense.

Both private and public foster homes operate today. In general, states use two major plans: (a) the maintenance of state-supported and state-operated institutions and (b) subsidies to private institutions and private homes. In some states gross abuses have been reported in connection with subsidized private institutions, especially where payment is based upon the number of children cared for. To owners or stockholders of such institutions the greater profit is possible if cheap food, staff facilities, and equipment can be used; and, if the institution operates as a profit-making venture, the temptation exists to prevent, rather than to aid, the placing of children in normal homes for private foster care or adoption.

The latest available complete data (1933) show 242,929 children under institutional and foster care, of which 102,577 were in the various types of foster homes and 140,352 in institutions.

The trend toward increased federal aid to dependent children is shown by the increasing numbers of recipients during recent years. The total, including all children assisted from federal, state, and local funds for programs administered under state plans approved by the Social Security Board, and from

state and local funds for those administered by the states without federal participation, increased during a seven-year period from 270,000 (1933) to 331,000 (1940).

Under the Federal Social Security Acts (1935 and 1939) the Government provides aid to states in support of dependent children. The state is reimbursed for half the estimated cost of \$18 per month for the support of one child and \$12 for each additional child in its own home or that of a near relative when adequate parental support cannot be provided. Under the latter act, such aid is supplied the children under sixteen years of age or, if attending school, under eighteen.

The first state-wide system of aid to dependent children was established in Illinois (1911). A recent survey (1935) shows all but two states using some kind of plan for providing aid to widowed mothers for the care of their children.

The present trend in state aid clearly indicates an increasing belief in the importance of preventing the separation of the child from its natural home wherever possible. Social workers are instructed to work toward the rehabilitation of family life within the home wherever possible in preference to seeking foster care for children of living parents. Authorities agree that, unless vicious conditions exist within the child's natural home, aid should first be used in an attempt to assist his parent or parents with his care rather than to seek foster care. The job of the worker or visitor, especially where the earning power of the parents has been curtailed by death, disability, or divorce, is that of supplying aid to the home itself. A second trend is noticeable in the increasing effort to select foster homes with a view to possible later adoption in preference to indefinite institutionalization or foster support.

Child guidance and social workers should note the distinction between the terms "adoptive" homes and "foster" homes.

At present there are four kinds of foster-family care distinguished from adoptive care. (a) In a prospective adoptive home the child becomes functionally a member of the family for a period of time with a view to

ment, and guidance.

The competent worker needs special training in the recognition and interpretation of psychological variations in child behavior, in the study of personality problems, in the proper procedures for securing competent clinical aid, and in the recording of vital data. State departments of welfare are at present offering increased provisions for the professional training of workers in these fields. The worker also needs special knowledge of nutrition, vocational counseling, family-life relationships, and the social and psychological problems of special age groups of children.

Literature and special material for the guidance of workers are available from several sources, notably the Children's Bureau in the Department of Labor, Washington, D. C., and the Child Welfare League of America, New York, N. Y.—D.E.L.

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FRUSTRATION. Frustration refers to the blocking of some aroused need or drive in which the satisfaction of the drive is interfered with, or is not available. Frustration implies the presence of some sort of barrier, either physical, social, or psychological, to the

achievement of satisfaction. Frustration may be either external or internal. An external frustration is one in which the barrier to the satisfaction of the drive comes from without. A child, for instance, that cannot reach the coveted toy is frustrated. Frustration may also arise from inner barriers, as when one aspect of a personality places an inhibition on some aroused drive.

The most direct and common response to frustration is aggression. A group of psychologists from the Institute of Human Relations of Yale University developed a thesis that all frustration leads to aggression. This thesis has been challenged, but, if one accepts the complete statement, all frustration leads to aggression unless this aggression is modified to some other response, this thesis is supported by a considerable body of evidence. There is no doubt that the primitive responses to frustration are various kinds of aggressive behavior, which represent an effort on the part of the young child to circumvent the barrier in order to reach satisfaction. This primitive method of meeting frustration may be contrasted with the adjustive method of exploration and manipulation accompanied by learning. A child who is unable to reach a coveted object may show his irritation at not being able to reach it and cry so as to bring assistance from another person, or he may proceed to explore possible ways of reaching the object through trial and error or insightful behavior, and, if his efforts are successful, he will have learned to meet frustration in a similar adaptive fashion on another occasion. There are other substitute methods of meeting frustration. One common method is by **WITHDRAWING** and giving up the attempt to surmount the barrier. This may often be accompanied by **FANTASY** in which success is achieved in the imagination. **NEUROTIC** behavior represents other types of responses which attempt to gain the satisfaction of the thwarted drive by substitute methods. If the frustration is severe, a child may respond by meaningless **REPETITIVE** behavior and finally, if the drive is strong and the frustration severe, the child may **REGRESS** to behavior characteristic of a child of a younger age.

Frustration is a necessary experience in the life of every child. Even parents who are most attentive and considerate of their child's needs cannot prevent occasions from arising in which the child suffers frustration. This is not to be regretted, for frustration is a necessary accompaniment of the process of growing up. Learning takes place only at the instigation of frustration. A child will explore and gain knowledge of the external world only at the behest of frustration. It follows from this that children should not be protected from all frustration. It is a good thing for children to face certain difficulties which challenge their effort, but which are not so severe as to lead to discouragement. On the other hand, it would be folly to put children in situations so difficult that efforts to overcome frustrations would consistently lead to failure. The child who is unable by his efforts to achieve satis-

faction and success will be forced to adopt one of the less satisfactory ways of meeting frustration. Education then becomes in part the problem of presenting children with frustrations which encourage a child to overcome them with a reasonable chance for success.

—P.M.S.

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See: AGGRESSION, INFERIORITY.

G

GANG. See: **EDUCATION** (section on "Street Education").

GENIUS. An individual of outstanding creative abilities or accomplishments; a person with an I. Q. of 140 or above.

See: **GIFTED CHILD, INTELLIGENCE TESTS, SUPERIOR CHILD.**

GESTALT. The German term "Gestalt" has been variously translated into English as form, pattern, shape, configuration, totality, etc. None of these terms conveys exactly the technical meaning of the concept. The expression "organized whole" is perhaps the most accurate translation. The concept of Gestalt in its current meaning has been formulated by the exponents of Gestalt psychology although the term had been used before.

The publication which marked the beginning of the Gestalt movement in psychology was a paper by M. Wertheimer which appeared in 1912. Wertheimer, Koehler and Koffka were the main exponents of the school but K. Goldstein made significant contributions by further formulation of Gestalt principles as well as in applying these principles to additional fields of human experience and behavior. In recent years Gestalt psychology is losing increasingly the characteristics of a separate school after having left its definite stamp on the contemporary psychology in general.

Gestalt psychology arose as a protest against certain basic conceptions of the psychology of its time. In the field of experimental psychology which developed along Wundtian lines and the chief exponent of which in America was Titchener, there was a tendency to re-

gard complex mental phenomena as composed of numerous minute elements somewhat as physical objects are composed of atoms. It was furthermore assumed that these elements, by fusing with each other or being connected by means of associations, form complex mental phenomena, somewhat as pieces of a mosaic are joined together to form complex patterns. The exponents of Gestalt psychology objected to this type of psychology to which they referred—with some exaggeration—as "atomistic", or "mosaic" psychology.

Gestalt psychologists attack the practice of considering mental phenomena as combinations of elements as an artificial and incorrect method. They point out that psychological phenomena appear originally as more or less closely organized segregated wholes which stand out against the background ("figure and ground"). The so-called elements are not real parts of the whole but artificial products of arbitrary abstraction. A Gestalt is not a mere summation of these parts. It has attributes which the parts do not possess, i. e., it has "emergent qualities." A triangle, for instance, has properties which the three lines forming its sides do not have as such.

A perceptual Gestalt is to a great extent independent of sensory qualities. For example, a melody may be played in different keys with different instruments and still remain essentially the same melody. A circle may be small or large, drawn in blue or red color and still remain the same Gestalt.

A perceptual Gestalt may remain identical in spite of considerable variations in the corresponding sensory process. Thus, for example, a visually perceived object, appears as about the same size whether it is nearby or at a distance despite the fact that the size of the

actual retinal image varies greatly in the two cases. When two small lights suitably timed are flashed successively in two distant places one perceives a motion starting from the first light and proceeding to the second although the retina has directly been stimulated only at two distinct points.

Gestalt processes follow definite laws of which the best known are the "law of closure" and the "law of Pregnanz". The first means a tendency towards completion of an incomplete Gestalt, the second a tendency towards formation of more perfect Gestalts.

It has been claimed by a number of authors that the Gestalt principles although originally applied only to psychological phenomena are valid for physiology also and even for physics. According to these students, physiological and physical phenomena are better understood if they are considered as unified wholes rather than composites of elementary processes.

One of the objections frequently raised against Gestalt psychology is that it dispenses with the method of analysis which no science can afford to do. The objection is not justified. Gestalt psychology is not adverse to analysis as such and considers the division of wholes into genuine parts as a necessary scientific procedure. It is opposed only to that type of analysis which arrives at artificial elements by means of arbitrary abstractions. The difference between the two types of analysis has recently been discussed by Angyal.

Gestalt psychology has raised a large number of significant problems in psychology which lead to fruitful empirical investigations. Such investigations were at first confined mainly to the field of perception but with time they have been extended to practically all fields of psychology. Koehler applied Gestalt principles to thinking and intelligence. He introduced the concept of "insight", a concept which precipitated not only numerous controversies but which stimulated a great deal of investigative work. Lewin reexamined and, on the basis of his findings, rejected the conventional concept of "association". He furthermore applied the Gestalt approach to the psychology of action. K. Goldstein with his famous studies of brain-injured patients made

the Gestalt approach fruitful for the field of pathological behavior.

There are a number of doctrines and theories which have developed more or less independently of Gestalt psychology but are in agreement with the standpoint of this school through the opposition to atomistic approaches and through the emphasis on the study of wholes. To this group belong the theories of emergent evolution, the psychobiology of Adolf Meyer, the personalistic psychology of W. Stern, the biological theories of Haldane, Uexkuell, Coghill, the holistic theory of personality of Angyal, etc.—A.A.

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GIFTED CHILD. That people differ widely in capacity to achieve was recognized by the ancients, but little effort was made to study the problem scientifically until the latter half of the nineteenth century. The most significant of the early studies were those of Sir Francis Galton, *Hereditary Genius* (1869) and *English Men of Science*

(1874). Galton's data indicated that the frequency of superior individuals is definitely limited in the general population, the number decreasing with increase in superiority, thus following the upper range of a normal frequency distribution.

Following this early work by Galton, data on gifted individuals were collected and analyzed in France, America and other countries. However, not until intelligence test scales were developed, about the end of the nineteenth century, was the wide range of superior abilities recognized. The discovery of the exceptionally gifted came as a result of intelligence tests.

Superior children are not as easily recognized as are mentally deficient children. They develop in an orderly, satisfactory manner and do not present problems by impeding routine school progress. Consequently, they were taken for granted, while backward children were receiving special attention. However, intelligence tests soon indicated that some individuals measure fully as much above average as the most hopelessly deficient measure below. Since the "above average" covers a wide and continuous range of ability the term superior is applied to the upper twenty, usually only the upper ten, percent of the high deviates, i. e. to individuals with intelligence quotients of at least 110, more often 120, and above. While no definite boundary lines can be established a child with an I. Q. above 130 is usually considered very superior, above 140 as near genius, and above 150 as genius. However, high mentality is not the only characteristic of true genius.

The establishment of the degree of superiority must be determined by standardized tests, but, there are other criteria which may be used by the layman to detect superiority. Superior children are interested in acquiring information through questioning, reading, and a wide variety of investigations and constructions. Almost all superior children enjoy reading and read widely. Their reading includes history, biography, science, travel, drama and poetry. Encyclopedias and books of knowledge are popular. Another significant sign is active interest and participation in intellectual games and hobbies (stamp and coin collections,

etc.), language, radio, and writing clubs. To be the youngest child in a class was found by Terman to be one of the most valid criteria of superiority.

As the eminent men whom Galton studied had more eminent relatives than chance would allow, he concluded that superior capacity to achieve must be inherited. The studies of Hollingworth, Terman and others have substantiated the finding that superior children come from superior families, but this fact does not necessarily verify the belief that heredity is the only causal factor since social influences seldom are controlled. Heredity undoubtedly is a major factor but all studies show that superior children usually come from superior homes. The families quite generally live in better neighborhoods, the occupational status of the father is high and generally both parents have completed at least a high school education. Thus innate and acquired factors are so completely intermingled that it is impossible to separate the influence of heredity from that of environment.

Superior children, as a group, are found to have general all-around superiority. However, a given individual may show marked variations which cause him to rate below average in some one or even several traits. This fact accounts in part for the popular opinion long held that children of superior endowments are physical weaklings, that they are unsocial, and are marked by unevenness of abilities. Careful, intensive, as well as extensive, studies indicate that such is not the case. Not only are superior children taller and heavier but they are also healthier, speedier, and more energetic as a group, than average children. They are rated superior in personality traits. Both Hollingworth and Terman found they were rated above average in most characteristics which make for success in school work and for desirable citizenship. Specific traits in which superior children were rated distinctively higher than the control groups were: self-confidence, sense of humor, originality, desire to know and to excel, conscientiousness, leadership, self-control, perseverance, common sense, truthfulness, cheerfulness, optimism, appreciation of beauty, forethought, courage, and evenness of temper. All studies

agree that there are few if any marked sex differences and that there is positive correlation rather than compensation of abilities.

Educators have been slow in recognizing the necessity for giving special attention to superior children, and yet the higher the intelligence quotient the more difficult it is for the child to adjust normally. While play interests are keen not all engage in the usual childish games. They may devise unique, original games, and solitary play is not uncommon. Normal social relations are frequently interfered with by acceleration or retardation in school. A young child of nine years with a mental level of fifteen faces extremely difficult problems in his attempt to make wholesome adjustments. If he is kept at grade for his chronological age his interests and activities are more mature than are those of his classmates, while if he is permitted to skip grades or is accelerated by individual instruction he finds himself in a group physically his superior and of widely different social interests. With the onset of puberty these differences may be intensified. By acceleration young superior children may enter highschool during their preadolescent years. They are not ready for the heterosexual adjustment that participation in the social life of the high school (dances, parties, dating, etc.) calls for. This unsatisfactory situation may result in a dislike for school work, a feeling of inferiority may develop causing withdrawal from social life and concentration on study, often to the detriment of physical as well as emotional and social health. Parents and teachers not infrequently fail to recognize superiority with a consequent lack of wholesome stimulation, or even worse, positive discouragement. Little or no competition in class work may result in poor study habits and narrow undesirable interests. Unwholesome personality traits may be fostered by unwise, over-protective or boastful parents.

The above are only a few of the many striking evidences of the marked need for special attention, and guidance of superior children, beginning very early, if they are to make the most of their abilities. The possibilities and actual achievements of many superior children are such that every effort should

be made to give all of them opportunities to achieve in proportion to their abilities. Failure to do so means social and economic waste. Superior children are less well understood and receive less assistance than any other group of exceptional children.

Progressive schools have recognized and attempted to meet the needs of superior children variously. One of the earliest and most feasible plans used was that of rapid promotion. While this procedure tends to bring children into groups of approximately the same mental level, thus stimulating effort by keen competition, they may be advanced into groups of pupils who are physically and socially more mature. This makes for social maladjustment which may handicap the child more than he is benefited by acceleration.

The second plan which developed with the use of intelligence tests was an attempt to segregate pupils into homogeneous groups, at least as far as the general level of mentality is concerned. This arrangement makes it possible to introduce subject matter and methods in keeping with the interests and aptitudes of the groups and also offers adequate competition. Nevertheless, surveys show that special classes have never become as popular for superior children as for the more unfortunate deviates. The plan has been criticized because segregation does not afford opportunity to adjust to a normal life situation and because teachers and pupils miss the stimulation offered by brighter children.

Participation in a variety of specially planned extra-curricular programs is a third approach that has countless possibilities. Such activities consist of educational trips, study clubs, discussion groups, et cetera, carried on during school hours or at stated times.

Enrichment of curricula has proved to be one of the most satisfactory and practicable plans for schools generally. This may be arranged on an individual basis or by intra-class groupings. The tool subjects and some drill work, usually are carried on with the regular class. However, bright children require far less time for study, as a rule, than average children. The time thus saved can be used to carry on individual projects. Among the many suggestions which have made for enrichment of

curricula the following proposed by Hollingworth are particularly pertinent: (1) introducing the pupil to a unitary study of civilization, (2) study of biographies, (3) study of a modern language, and (4) training the child in special abilities.

Finally it is clear that any arrangement to be wholly satisfactory for all children concerned must be essentially individualization of school work involving some acceleration, much enrichment, and in some cases special groupings.—L.G.P.

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See: SUPERIOR CHILD.

GIRL SCOUTS. The Girl Scout organization aims to prepare girls for the responsibilities of citizens and homemakers through the comradeship of group activities carried on democratically in out-of-school hours. Girl Scouting is non-sectarian and non-political. Membership is open to all girls from seven to eighteen years of age, regardless of race, creed, color, or financial status. Membership is always voluntary. The activities are planned to supplement those of home, school, and church, supplying wholesome recreation and constructive things to do, based on the abilities of different age levels: Brownie Scouts, 7-10 years old; Girl Scouts, 10-15 or in senior high school; Senior Girl Scouts, 15 or in senior high school—18.

The basis of Girl Scouting are the Girl Scout Promise and Laws, which express a simple ethical code in the words of the girls themselves. The code is accepted voluntarily by each Scout. One of the important aspects of the code is the fact that it is international. The Girl Scouts of the United States are members of the World Association of Girl Guides and Girl Scouts and girls of many nations subscribe to substantially the same principles. The code thus provides an early and simple foundation on which international friendship and understanding may be

built; this idea is further carried out in the program activities provided by the handbooks and other material prepared by the national organization.

THE PROMISE:

On my honor, I will try:

To do my duty to God and my country,

To help other people at all times,

To obey the Girl Scout Laws.

THE LAWS:

1. A Girl Scout's honor is to be trusted.

2. A Girl Scout is loyal.

3. A Girl Scout's duty is to be useful and to help others.

4. A Girl Scout is a friend to all and a sister to every other girl Scout.

5. A Girl Scout is courteous.

6. A Girl Scout is a friend to animals.

7. A Girl Scout obeys orders.

8. A Girl Scout is cheerful.

9. A Girl Scout is thrifty.

10. A Girl Scout is clean in thought, word, and deed.

The activities of Girl Scouting are regarded as ways of carrying out the Scout code of conduct. Therefore the emphasis of such activities may shift according to current needs but the code remains the same. Activities for Girl Scouts are divided into ten fields; Arts and Crafts, Community Life, Health and Safety, Homemaking, International Friendship, Literature and Dramatics, Music and Dancing, Nature, Out-of-Doors, and Sports and Games, plus an eleventh—Vocational Exploration—for Senior Girl Scouts. Brownies cover the same subjects but the program activities are expressed in a more informal way.

The method of Girl Scouting is the group work method, training for the give and take of democratic living in small groups of girls meeting once a week with adult leaders who act as guides and friends. Girls are helped to make simple choices of what they want to do. They gain experience in planning and carrying out their own projects, delegating and accepting responsibilities. Groups (called troops) usually range in size from 8 to 30 girls. Troops may be subdivided into committees or patrols. Each patrol elects its patrol

leader; the troop as a whole elects such officers as scribe and treasurer; and these elected representatives meet with the adult leader and her assistant(s) to consider troop plans and transmit ideas to and from the girls.

For example, a troop may want to go on an overnight hike. The leader may suggest that there are certain things they should know before they go: what to take; how to cook their food; what to do in an emergency, such as spraining an ankle. Each patrol may agree to be responsible for finding out one aspect of the hike and reporting at the next meeting. There may be some backyard practice in outdoor cooking, first aid, and camp skills before the overnight trip actually materializes. Planning and carrying out of the trip will have been accomplished by the girls themselves but the leader will have helped to guide the planning into the most constructive channels, supplying ideas from her own greater experience.

Girl Scouts are encouraged to cooperate with other welfare and service agencies. The Girl Scout troop is a channel through which many girls are directed each year into volunteer work that is socially useful.

Typical Girl Scout activities include: learning to plan, cook, and serve well balanced meals, caring for young children to relieve their elders for other work; discovering what crafts materials are available locally (reeds and rushes, clay, leather, etc.) and using them

in creative arts and crafts; putting on plays and puppet shows for shut-ins; holding folk dance festivals and international friendship parties; visiting points of historical and civic interest; raising money for relief and welfare agencies and making other contributions to aid children in foreign countries; learning first aid; simple outdoor living; acting as messengers and office helpers for national and community agencies. Girl Scouts also accept responsibility for keeping physically fit and for helping to maintain community health. They study and practice the principles of good nutrition, take part in healthful out-of-doors activities, observe health and safety regulations to prevent accidents and illness and to deal with them when they occur.

Active membership, including adults, was 717,657 at the end of December, 1942. National Headquarters from which current material on Girl Scouting may be obtained, is at 155 East 44 Street, New York City.—A.L.N.

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GROWTH. See: DEVELOPMENT, MATURATION, ORGANISMIC AGE.

H

HABIT. Learning involves the forming of habits. Success in everyday relations is conditioned by the number and kinds of habits that have been established. Habits are not limited to the physical or motor side of behavior for we are equally able to form habits in the intellectual, moral, social, and aesthetic realms of activity. Our ordinary daily life is carried on largely through the medium of habit. Not only are most of our daily activities conducted largely on the basis of habit, but our social life and standing is gaged by it; our character is determined by it; our mental life is conditioned by it; and our creative activity is expressed by means of the stock of habits we possess. Thus broadly conceived, habit permeates our entire life and is the basis of our skills, attitudes, and ideals. It makes us what we are. Our stock of them determines whether or not we shall be considered experts in our field of endeavor. William James says, "It is the scarcity and not the abundance of habits which forces us into a rut, and keeps us mediocre."

MEMORY AND HABIT. Memory is the foundation of habit. Impression and retention are two important characteristics of the neurones of our nervous system. Were it not for the fact that impressions, or stimulations of the sense organs are retained or 'stored up' in the neurones ready to be recalled for future use, there would be no such thing as habit. In fact habit has been defined as "the tendency to do, think, or act as one has done, thought, or acted in the past".

Since memory is the foundation of habit, and since the latter plays such an important part in life, it is obvious that much of the learning of children must be concerned with the acquisition of knowledge, facts, skills, and

other fundamentals that are needed in the everyday activities of life.

NEURAL BASIS OF HABIT. Neurones possess three characteristics that make learning or habit formation possible. These are (1) sensitivity, or the power to be aroused by appropriate stimuli, (2) conductivity, or the power to transmit the impulse or nerve current from the place of origin to the place of activity, and (3) modifiability, or the power to produce change in the connection between the stimulus and the response. Habits result in the improvement of reactions by means of practice.

Habits also depend upon the following three factors in human nature: (1) reflexes, (2) instincts or dominant urges and drives, and (3) maturation, or inner growth of the neural organization. Reflexes and instincts may be looked upon as racial habits that had definite protective and survival values in the history of man's evolution, and may still serve the same purpose now. For example closing the eyelid when a threatening object approaches it has obvious protective value. Coughing and sneezing, to remove objects from the throat or nose that interfere with breathing, likewise have the same value. Reflexes of this kind that have strong, protective value or that are of great survival value are strongly imbedded in the nervous system and are subject to change only with great difficulty. We may change the manner in which we cough or sneeze but we cannot entirely eliminate the reflex when the stimulus provoking it is strong enough.

There are many reflexes, however, that are not so strong and definite, that can readily be modified. These form the basis for much of habit formation. Simply to mention reflex movements of arms, legs, and body suggests innumerable avenues for form-

ing habits of skill and dexterity, such as writing, handling instruments and tools, dancing, skating, swimming, and similar expert bodily movements, playing games that require skillful use of arms, legs, and body, and the like.

Out of reflexes connected with vocalization grow habits of a highly complex nature, such as talking, perhaps in several languages, singing in widely varying voice and manner, imitating sounds of all sorts, and so on.

THE CONDITIONED REFLEX. The most elementary or rudimentary type of habit formation is the conditioned reflex. The Russian physiologist, Pavlov, originated this term. In one of his experiments he studied the salivary reflex in dogs. By means of a tube fastened to a dog's mouth, Pavlov was able to measure the flow of saliva under different conditions. The normal stimulus for causing the flow of saliva in a hungry dog is, of course, food. But saliva also flowed on sight of the dish in which food was normally brought, on hearing the footsteps of the person doing the feeding, and other conditions associated with being fed. Because various conditions were capable of arousing this reflex, Pavlov called it the **CONDITIONED REFLEX**. Next he experimented to see if an entirely irrelevant stimulus could be made to arouse the reflex. He used a bell for the unrelated stimulus. Each time the dog was given a bite of food a bell was rung, that is, the two stimuli were given simultaneously. After doing this a number of times it was observed that the saliva flowed in response to the bell alone.

Applications of the principle of the conditioned reflex are found all around us in the daily activities of life in the form of conditioned responses. Any response that has become connected with a stimulus that would arouse it before, may be considered as a conditioned response. Take, for example, the conditioned fear response. If a furry animal, such as a rabbit, is placed within reach of an infant, it will not naturally react with fear toward the animal. But suppose that at the time the rabbit is placed before the infant, a loud noise, which is a normal stimulus for fear, is made. What happens? The fear response attaches itself to the rabbit, and the infant becomes **CONDI-**

TIONED to fear of rabbits. A fear habit has been established.

In a similar manner the native fear response becomes connected with innumerable situations in life, some of which are good and some are bad. The child fears the hot stove, strange animals, places, people, darkness, etc. As he gets older he fears failure or low marks in school subjects, disapproval of his fellows, disgrace or humiliation in violating social standards and conventions, and hundreds of other things that are not in agreement with adopted rules and standards.

What is true of conditioned fears is also true of other feelings and emotions. We become conditioned to strong likes and dislikes. We learn to love, hate, sympathize, grieve, exult, scorn; we develop prejudices as well as habits of openmindedness, tolerance, and suspended judgment.

Conditioning applies not only to the feelings and emotions but to all spheres of activity. Our everyday habits are surrounded by a network of conditioned responses.

FORMING HABITS THROUGH TRIAL AND ERROR ACTIVITY. The little child just learning to drink from a cup goes through many useless and fumbling movements before finally completing the complicated neuro-muscular pattern involved in drinking from a cup. Many trials and many errors are involved in establishing this pattern. The same is true of learning to lace shoes, dress, climb stairs, and hundreds of other habits that must be learned. The child learning to write goes through many useless and various superfluous physical and emotional movements before he develops skill in the art of writing.

Adults experience the same trial and error activity, involving many useless movements and many errors, in perfecting skills such as those needed in becoming typists, telegraphers, musicians, machine operators, athletes, surgeons.

As adults, we must realize that trial and error learning is an essential part of the child's procedure in forming necessary habits. The mother who is impatient with the child's bungling and cumbersome trials and often painful errors, to the extent of either doing the thing for the child or of discouraging the activity, is seriously in-

terfering with the normal habit forming activities of her child. We learn through our errors as well as through our trials.

In trial and error procedure one thing stands out, namely, that there is a purpose or goal toward which activity is directed. The try and try again procedure directed toward a definite goal ultimately leads to skillful activity. We see the principle working in complex as well as in simple activities. We see it in learning to drive a nail, saw a board to a line, or thread a needle, as well as learning to write, to typewrite, play the piano, drive an automobile, or fly an airplane. We see it in the fumbling movements of the beginner in baseball or tennis, or in the crude and uncertain motions and tinkering of the unskilled mechanic. Then, as we observe the expert in action, we see that unnecessary movements and errors have been eliminated and direct and efficient habits have been established.

LAW OF EXERCISE OR PRACTICE IN HABIT FORMATION. Skill is attained through practice. The expert has eliminated unnecessary movements and errors and has developed skill and efficiency by exercise and practice. The law of exercise is the most essential law of habit formation. It involves the familiar principle of "learning by doing".

Considerable experimental data have been secured on the factors affecting the formation of habits. Bryan and Harter's experiment on the effects of practice in learning telegraphy have become classic in the literature on habits of learning.

These investigators measured the progress of students in learning telegraphy and plotted the results in terms of the number of letters received and sent each week for a period of nine months. The curves thus obtained showed certain characteristics of learning which subsequent experiments of a similar nature corroborated. These characteristics are (1) a rapid rise at first and then less and less progress until a practice limit is reached. (2) Fluctuations in efficiency for brief intervals of time. (3) Plateaus where progress seems to remain at a standstill.

Other investigations dealing with the law of exercise have been concerned

with the length of practice periods for various kinds of materials, frequency of practice, and the distribution of practice time (See Learning).

SATISFACTION AND ANNOYANCE IN MAKING AND BREAKING HABITS. The animal trainer relies on food, approval, and punishment in bringing about desired response in animals. The mother praises, rewards, and on occasion scolds or otherwise punishes or shows disapproval in order to train her child in right ways of living. The teacher uses various incentives to encourage learning in pupils. These provide pleasure and satisfaction. The teacher also uses methods that bring about displeasure and annoyance in connection with learning and habit formation. The tendency in forming habits is to do those things that bring satisfaction and avoid doing those that are annoying. These two taken together constitute the **LAW OF EFFECT**. This law taken in conjunction with the law of practice forms the fundamental basis of learning and habit formation.

It is especially important that satisfaction accompany desired responses in children. A reaction that has pleasure attached is much more quickly learned than one with no pleasure following it. Praise, commendation, reward, and approval bestowed judiciously and sincerely will encourage the child's feeble and bungling efforts to learn and overcome mistakes. Compliments, recognition of achievement, rewards, and approval are worthy incentive to be used in encouraging children to form desirable habits. Satisfaction is generally to be preferred to annoyance in the training of children. However, it must be recognized that dissatisfaction and annoyance play a very important role in the training of children, especially in breaking undesirable habits.

THE AGE FACTOR IN HABIT FORMATION. A sound principle in habit formation is to start early and simply, and with due regard for maturity or structural development. Whether or not there are certain ages or periods especially conducive to specific habit formation is of less practical concern than it is to begin habit training when the child has reached the stage of development at which he is ready to respond naturally to specific training. A good practical rule to follow is not to

hurry or force the child beyond the point where his degree of maturity makes it possible to make use of the training given. For example, it is not normal for a four-year-old child to sit quiet for more than four or five minutes. To be made to do so would involve not only undue strain, but would also lead to poor habits of physical and mental hygiene. It is now recognized that many nervous and emotional disorders appearing in later life have their origin in bad habits and conflicts of early childhood. Also, unless there is structural readiness for taking on a specific habit, intensive training in it will be useless or perhaps even detrimental or injurious to other habits. For example, intensive training in reading is ineffective before the stage of 'reading readiness' is reached.

Trying to learn too many habits at the same time or to correct several faulty habits at once, likewise is not desirable since it leads to confusion, strain, and discouragement. "Simple and early beginnings" is sound procedure when taken in conjunction with developmental growth.—A.D.M.

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See: **CONDITIONING, LEARNING, MATURATION.**

HANDEDNESS. Handedness is generally defined as the hand used preferentially in writing, but in its broader sense, it is the use of the preferred hand in widely varied activities. Some individuals use one hand for writing while the other is used in throwing or

other activities. In order to determine the handedness of a child, it is necessary to conduct many tests such as tapping, strength of grip, throwing, and hammering.

The most outstanding theories concerning hand preference are social influence, foetal position, tonic neck reflex, and cerebral dominance. It has been postulated that due to the ease of a warrior in protecting his heart and body with the shield on his left arm and weapons in the right hand, a general preference for the right hand arose. Mothers taught children in early life to use their right hand in preference to the left until it became the socially accepted mode of conducting themselves. The foetal position is believed to put the weight of the child on one side thus restricting the use of those limbs and allowing the other side which is freer to develop more rapidly. After birth, the infant uses the hand which is strongest and most dextrous. The tonic neck reflex may predispose a child to use the hand which he is facing and which comes most easily coordinated with his eye movements. In the majority of human beings the left cerebral hemisphere dominates in the control of motor coordination of the body. Since the left hemisphere controls the right of the body, the motor processes of the right side are more accurate and are preferred.

Through a great many tests, it has been found that right handed children succeed more readily in reaching a high point of accuracy and speed in putting pegs in holes or throwing a ball through a hoop with their preferred hand than do left handed children. There is also a greater strength and steadiness of the preferred hand of a right than of a left handed child. Since this is true and the majority of persons use their right hand, there is an attempt of parents early in life to cause their children to be right handed. This raises the problem of stuttering and stammering which is commonly believed to occur when a child is changed in hand preference. In spite of this belief, there are in actuality few cases of language impediments directly traceable to this cause. It seems more likely that if it is especially hard for a child to change his handedness, emotional upsets resulting in social

maladjustment due to the parents nagging and scolding may result in the stammering or stuttering. The speech impediment is, therefore, due to improper method and not to the transfer of preference from one hand to the other. Handedness generally appears in the second six months of the child's life. If left handedness may be corrected between this age and that of the first speech habit formation, no trouble is likely to occur, and efficiency is not impaired. If, however, the handedness cannot be changed in that time, it is generally advised that the change not be attempted except under the supervision of a specialist. The ease of hand preference change lies in stressing the motivation for using the non-preferred hand rather than inhibiting the use of the preferred one. It is much more difficult to teach a child to use his other hand if he is conscious of an irritation at doing so. It is advised, therefore, to use activities which are bimanual but which put the greatest load of work on the right hand. Generally it is recommended that no attempt should be made after the age of six to change the hand preference of a child.—M.L.S.

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HEREDITY. Heredity is defined as the transmission of physical and psychological characters by parents to their offspring. Conklin says of heredity, "The chief characters of every living thing are unalterably fixed by heredity. Men do not gather grapes of thorns nor figs of thistles. Every living thing produces offspring after its own kind."

INHERITED PHYSICAL CHARACTERISTICS. We need make but a hasty examination to discover various evidences of physical traits that have been inherited from immediate ancestors or members of the family group. Height, weight, general body size, facial features, color of eyes and hair, size and shape of nose, ears, hands, feet, head, teeth, shoulders, and general propor-

tions of the body are some of the more obvious physical characteristics that are inherited from immediate ancestors.

Certain family peculiarities are often transmitted to the offspring, such as structural anomalies, functional deviations or abnormalities and certain tendencies or predispositions in physical and neural makeup and behavior.

In addition to traits inherited from immediate ancestors, there are also those received from remote ancestry.

INHERITED MENTAL CHARACTERISTICS. It is difficult to isolate mental characteristics and ascribe their existence to heredity when innumerable environmental factors are continually impinging on the individual. But considerable evidence has accumulated which shows that certain mental characteristics are strongly influenced by hereditary factors. The French psychologist Ribot and the English scientist Galton were among the earliest investigators in this field. Their studies led to the discovery that high abilities run in families, as demonstrated by many cases of prominent individuals. For example, the Senecas and the Porsons were known for their remarkable power of memory. The family of Richard Porson was so highly gifted that the "Porson memory" became proverbial. Several generations of gifted artists are not uncommon in many famous families of painters. Galton found that of forty-two Italian, Spanish, and Flemish painters of the highest rank, twenty-one had illustrious relatives. The names of Bach, Beethoven, Mozart, Mendelssohn, and Hayden represent families illustrious for their musical abilities. In the Bach family fifty-seven members appeared in the biographical collection of musicians extending through at least eight generations. Macaulay's grandfather, father, uncle, cousin, and nephew were all noted statesmen and writers. Samuel T. Coleridge had two gifted sons and a daughter. He also had three nephews, a grandson, and a cousin who were famous. Aristotle had a father, grandson, and second cousin who were famous. Francis Bacon had a distinguished father and a scholarly mother. Other members of his family who attained prominence in their day were a brother, two half brothers, a nephew, a grandson, and a cousin. Darwin had several members in his family

who were noted. Galton was a cousin of Darwin. The conquerors Alexander the Great, Hannibal, Julius Caesar, and Napoleon each had many gifted relatives.

The history of the Edwards family presents a remarkable picture of eminence and achievement touching almost every field of social and economic endeavor. Winship made the study in 1900. He was able to identify 1394 members of the family, beginning with Jonathan Edwards who was born in 1703. This illustrious family numbered thirteen college presidents, sixty-five college professors, sixty physicians, one hundred clergymen, one hundred lawyers, thirty judges, seventy-five army and navy officers, sixty prominent authors, three United States senators, several members of Congress, governors of states, framers of state constitutions, and mayors of cities. Many were successful business men, bankers, industrialists, and landowners.

The classic investigation of the inheritance of traits and tendencies toward criminality and degeneracy is that of the Jukes family made by R. L. Dugdale in 1877. It is the history of forty-two different families whose ancestry could be traced to one man, "Max Juke", born in 1720. He was a shiftless, worthless vagabond type of individual who married a woman of his own type. By 1877 the descendants numbered about 1200. Of this number it was estimated that 300 were professional paupers, 7 were murderers, 60 were habitual thieves, 140 were criminals convicted of crime, 400 were physically degenerate, and 300 died in infancy. Only 20 of the 1200 learned a trade and most of these learned it in prison. This family's contribution to society as given by the investigator was, "an unending contribution of crime, pauperism, disease, viciousness, and immorality."

The study of the "Kallikak" family made by H. H. Goddard in 1912 illustrates the heredity trend with regard to mental and moral defect. Of the 430 direct descendants that could be traced only 46 were known to be normal while 14 were known to be definitely feeble-minded. Twenty-four were confirmed alcoholics, and 41 were moral degenerates. Of this family history the investigator says, "The surprise and

horror of it was, that no matter where we traced them, whether in the prosperous rural districts, in the city slums to which some had drifted, or to the more remote mountain regions, or whether it was a question of the second or the sixth generation, an appalling amount of the defectiveness was everywhere found."

TRAIT RESEMBLANCE. The following coefficients of correlation showing the degree of trait resemblance between various members of a family or between relatives are reported by Gates.

Correlation of	r
1. Identical twins .....	.90
2. Twins, all kinds mixed .....	.75
2. Brothers and sisters, excluding twins .....	.50
4. Children and parents .....	.40
5. Cousins .....	.25
6. Grandparents and children ..	.15

Woodworth reports the following resemblances between identical twins, fraternal twins, and siblings for standing height, head lengths, and I. Q.

	Ident. twins	Frater. twins	Sibl.- ings	Unrel. indiv.
Standing				
height	.93-.95	.50-.65	.50	.00
Head length	.91	.53	.50	.00
I. Q.	.90	.63-.70	.50-.60	.00

From the above coefficients of correlation we not only see that certain mental and physical characteristics "run in families," but we also have a quantitative figure showing how much they tend to do so.

HEREDITY AND ENVIRONMENT. The controversy as to which is more important, heredity or environment, has been going on for a long time. The controversy will perhaps never be resolved in favor of either heredity or environment insofar as both are essential to good all-around development. On this point Woodworth says, "Shall the gardener pin his hopes on careful cultivation of the soil, or on selection of the best seed? The practical gardener knows perfectly well that both are necessary. He could never grow a superior crop from inferior seed, no matter how rich the soil, nor from even the best seed sown in poor soil. The development of a plant is clearly

a response of the heredity present in the seed to the environmental stimuli of soil, moisture, and sunlight. It is equally true of the animal that development depends on both heredity and environment, and that one individual differs from another sometimes because of different heredity, sometimes because of different environment and usually, no doubt, from both causes combined."

Out of the knowledge of the effect of heredity and environment on the development of the individual have developed the sciences of EUGENICS and EUTHENICS. The first deals with the application of the facts, principles, and laws of heredity to the end that succeeding generations may be well-born, that desirable and worthy physical, mental, and moral traits may be continued as an hereditary contribution from generation to generation, and that traits that lead to weakness and degeneracy may be brought under control and in time eradicated. The second deals with improvement of the species by improving environment. Under good environmental conditions many desirable traits and capacities are developed which otherwise might remain hidden or undeveloped. Likewise, undesirable traits are curbed or suppressed by a good environment. Good social and economic conditions, education, moral, religious, and character training all contribute to the environmental influences that lead to the improvement of the individual and of human society.—A.D.M.

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HOBBIES. Hobby is a transitional form of activity, a combination of play and work. Like play, it implies free and pleasurable choice; like work, it is based on systematic action and pursuit of realistic goals. Physical fitness as well as cultural heritage account for the difference in hobbies among boys and girls. The common choices among boys are: photography, collecting (stamps, coins, match-covers, etc.), radio, airplane models, and sports. Girls seem to prefer: music, dramatics, sewing, and housework. In addition to being pleasurable and sometimes exciting pastime, hobbies have also an undeniable educational value. Superior boys and girls profit considerably from reading novels, history and science, playing musical instruments, club activities, and collecting. Inferior boys and girls, on the other hand, are more inclined to read the funnies, to participate in active sports, to listen to radio, and to be engaged in mechanical work, according to W. D. Lewis and W. McGehee ("A Comparison of the Interests of Mentally Superior and Retarded Children," *School and Society*, 1940, 52, 597-600).

See: **PLAY, RADIO AND MOTION PICTURES.**

HYPOCHONDRIA. Excessive concern about one's health is by no means normal, among children. Occasionally, it is a result of some painful or otherwise unpleasant disease; but usually the concern must be attributed to the home environment. The attitude may be taken over from mother or father, or from near relatives. It may also be used to keep or attract the parents' attention, and as a device to stay away from school. Pampered and only children are particularly likely to develop symptoms of hypochondria; sibling rivalry is another important cause.

See: **PAMPERING, PARENT - CHILDREN RELATIONS, SIBLING RIVALRY.**

I

IDENTIFICATION. Identification is the earliest expression of an emotional tie with another person; a constantly recurring psychological phenomenon which arises spontaneously and is ambivalent from the start. It is a normal process, a means of solving emotional problems that arise from love and hatred of the same object. It can turn into tenderness as easily as into a wish for someone's removal.

At the beginning, in the oral phase of development object-cathexis and identification cannot be distinguished. Identification is primarily a process of the ego and is a very frequent one. The entire process of identification is bound up with the origin of the ego-ideal. Identification, in its simplified form, as occurring in the male child, may be described as follows: At an early age the little boy develops an object-cathexis of his mother, which originally related to the mother's breast. At this time the boy identifies himself with his father. For a time these two relationships exist side by side, until the sexual wishes in regard to the mother become more intense and the father is perceived as an obstacle to them; this gives rise to the Oedipus complex. The identification with the father then takes on a hostile coloring and changes into a wish to get rid of father in order to take his place with the mother. The ambivalent attitude which was inherent in the identification with father now becomes manifest. The simple positive Oedipus complex in the boy now consists of an ambivalent attitude to the father and an affectionate object-relation to the mother.

The normal dissolution of the Oedipus complex necessitates a relinquishing of the object-cathexis of the mother and an intensification of the identifica-

tion with the father. This permits the boy to retain part of his affectionate relation to the mother. This solution of the Oedipus complex consolidates the masculinity in the boy's character. In a precisely analogous way, the outcome of the Oedipus attitude in the little girl may be an intensification of the identification with her mother and result in stamping the child's character in the feminine mold.

Bisexuality plays an important part in the process of identification. It is the relative strength of the masculine and feminine sexual dispositions, in both sexes, that determines whether the outcome of the Oedipus situation shall be an identification with the father or with the mother. This bisexual coloring of children causes the Oedipus complex to present its negative side in addition to its positive side described above, namely, the boy at the same time behaves like a girl and displays an affectionate feminine attitude to his father and a corresponding hostility and jealousy towards his mother. Should the Oedipus complex become inverted and the child accept a feminine attitude, the father is taken as the love object. He then looks to the father for direct satisfaction of his sexual instinct. The original identification with the father has become the precursor of an object-love tie with father. The same holds true with the necessary substitutions for the baby daughter.

It is important to distinguish between an identification with the father and the choice of the father as a love object. An identification is what one would like to be. A love-object is what one would like to have. Identification, therefore, is already possible before any sexual object-choice has been made. Identification endeavors to mould a person's own ego after the fashion

of the person that has been taken as a "model."

Group identifications or what is most commonly called 'Herd Instinct' must be considered. This can be best observed and traced in the group feelings in children. Its manifestations are to be seen (1) in a nursery containing many children, (2) in the relationship of children to their parents, and (3) as a reaction to the initial envy with which an older child receives a younger one. The older child's impulse is to keep the younger ones away from the parents and rob them of their privileges. He is, however, faced with the fact that these children are loved by the parents and that a hostile attitude on his part will damage him. He is thus forced into identifying himself with other children. This causes the growth of a communal or group feeling, which is further developed at school. This is a reaction-formation and its first demand is for justice, for equal treatment of all. If one cannot be the favorite, at all events nobody else shall be the favorite. This replacement of jealousy by a group feeling allows emotional satisfaction that could not otherwise be obtained from this love object. The jealousy is renounced by group unity which pays homage to its hero. The love for a third person brings about the identification and thus allows them satisfaction.

Social feeling, too, is based upon the reversal of a hostile feeling into a positively-toned tie through the process of identification. We deny ourselves many things so that others may have to do without them, or may not be able to ask for them. This becomes a social conscience and a sense of duty based upon a demand for equality. Man is not a herd animal but is rather a horde animal, an individual in a horde led by a chief.

Identification as it occurs in the structure of a neurotic symptom may show painful determinants. Freud relates the case of a little girl who develops the same tormenting cough as her mother. The identification came from the Oedipus complex and this signified a hostile desire on the girl's part to take her mother's place. The symptom expresses her object love toward her father, under the influence of a sense of guilt for desiring to take

her mother's place, e. g. "You wanted to be your mother and now you are—anyhow as far as the pain goes."

Another type of symptom formation is one in which identification omits any object relation to the imitated person. This type of identification is commonly seen at boarding schools, in prisons, in the army and occasionally in communities. Freud cites the case of a girl at boarding school who receives a letter from a man with whom she is secretly in love; the letter arouses her jealousy. The girl reacts with a fit of hysterics. Some other friends, who know about it, also develop the fit, as if by mental infection. The mechanism of identification is based upon putting oneself in the situation. Girls desiring to have secret love affairs, accept the pain involved in it. The identification by means of the symptoms thus becomes a point of coincidence between the two egos.

The above sources show that (1) identification is the original form of emotional tie with an object; (2) in a progressive way, it becomes a substitute for a libidinal object tie, by means of introjecting the object into the ego; and (3) it may arise with every new perception of a common quality shared with some other person who is not an object of the sexual instinct.

Identification plays an important role in the genesis of male homosexuality and in melancholia. In homosexuality the young man's Oedipal fixation upon his mother continues into puberty. He now finds he cannot exchange her for some other sexual object. The young man instead of abandoning his mother identifies himself with her. He looks about for objects which can replace his ego for him and on which he can bestow such love and care as he received from his mother. The renounced object is introjected into the ego.

In melancholia where the exciting cause is the real or emotional loss of a love object, the love object is introjected and made part of the ego. The cruel self-depreciation of the ego and relentless self-criticism of these patients apply to the introjected object and represent the ego's revenge upon it. The ego is divided into two parts, one rages against the second. The second part contains the lost object and has been altered by introjection.

The critical faculty within the ego, or conscience, is the punishing mechanism. Normally, conscience acts as a critical faculty towards the ego. The functions of this "ego ideal" are self-observation, moral conscience, censorship in dreams, and the chief influence in repression.

One more type of identification must be mentioned, namely, "empathy." Our understanding of the intellectual ideas of other people that are foreign to our ego occurs because of it. The road of identification to empathy is by way of imitation. Empathy allows us to comprehend the mechanism by means of which we are enabled to take up an attitude towards the mental life of another person. Identification leads also to a limitation of aggressiveness toward those with whom one identifies himself, in sparing them and giving them help. This type of identification lies at the root of clan feeling. Its basis rests on the recognition of a common substance and may even be brought about by a meal eaten in common.—S.Z.O.

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ILLEGITIMACY. Though the Social Security Act makes no distinction between legitimacy and illegitimacy, state laws are by no means equally impartial and broad-minded with regard to the rights of children born out of wedlock. Nor has the social stigma, totally undeserved by the child, been completely removed. Under these conditions, it is not surprising at all that, out of 70,000 babies born annually in this country of unmarried mothers, 15% or more are placed in institutions. Other illegitimate children have to pay a heavy toll in worries, frustration and humiliation and thus contribute more than their quota to our neurotic population.

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See: ADOPTION, FOSTER HOMES, INSECURITY, SOCIAL ACCEPTABILITY.

IMAGINATION. The value of imagination becomes at once obvious, when we consider the fact that few contributions in art and literature, science and philosophy, invention and technology would be possible apart from this human power to recognize and enrich the experiential material of daily life. While conceding the great cultural importance of creative imagination, whether on the level of genius or on that of average ability, we must not disregard the less desirable and sometimes definitely harmful effects of unrealistic distortion of experience—as it expresses itself in lying, day-dreaming, autistic thinking, or delusion. The cultural dilemma of whether to encourage or to discourage the use of imagination among children has never been satisfactorily solved by educators and psychologists. The truth is, however, that, beginning with the age of 3 or 4, when imagination is at its strongest, it meets more disapproval than is usually surmised. It must be said that, on the whole, forces of conformity are working against the free employment (and enjoyment) of imagination, even when it manifests itself on the level leading to Socrates's thinking, Galileo's observations, Van Gogh's aesthetic search, or Christ's moral teachings—whenever, in short, it goes counter to traditions or even firmly established fashions. The school, too, tends to curb rather than to develop originality and creativity, unless the child's mental vigor happens to strike the 'fancy' as of a most exceptional teacher. Only in play and humor is imagination commonly appreciated. It would take most unusual parents and teachers, indeed, to differentiate soundly, clearly and consistently between imagination that is beneficial and imagination that is mischievous.

See: CONFORMITY, GIFTED CHILD, THINKING.

IMITATION. Imitation occurs when an individual witnesses behavior and tries to reproduce it. In young children imitation is sometimes confused with random movements which resemble the acts of others but cannot truly be said to be imitative. These spontaneous movements, however, prepare the infant to make accurately speech sounds and

bodily movements when the stimulus to imitate comes.

Children do not imitate everything they see; their imitation is selective. They usually do not imitate behavior that is uninteresting, relatively complex, and "seen without a trace of insight," or behavior that has no meaning, use, or purpose for them. Voluntary imitation seems to be related to intelligence, to age, and to social experience.

Imitation does not always immediately follow the child's observation of behavior. There is sometimes a "latent" period between seeing the act and producing identical behavior. In some of these instances the repetition of the action is necessary.

Four practical questions with respect to imitation may be raised: What do children imitate at different ages? Why do they imitate? Of what developmental value is their imitation? What is the role of the parent and teacher with respect to imitation?

During the first year of life random movements pave the way for imitative behavior. The two-month-old infant appears to imitate sound making and responds to laughter and smiles with similar behavior. Later in the first year he imitates other movements connected with the mouth and movements of the head and hands such as waving "bye-bye," "throwing a kiss," and playing "pat-a-cake." He also begins to repeat definite sounds which develop later into closer correspondence to the actual words spoken.

During the second year the child imitates new combinations of words, "reading," and other actions that are interesting to him, though not clearly associated with purpose or insight. In the Gesell tests more than half of the children examined in their second year imitated the examiner when he rattled a spoon in cup, rang a bell, made a rubber doll whistle, or built a tower of two or three blocks.

During the third year children imitated more complex activities such as building a simple bridge of three blocks and folding a paper twice. Purposive imitation seems to increase as the child grows older.

The same trends toward greater complexity and purpose are noted during the rest of the preschool period. The majority of four and five-year-old chil-

dren will imitate the building of a model gate of five blocks and a block stairway of four flights, and the creasing of a paper in three diagonal folds. They also imitate extensively the behavior of people in their environment. It is possible, however, that the egocentric child up to the age of six or seven, in his most imitative stage, may identify himself with his model and imitate him unconsciously. This type of imitation seems to arise out of a confusion between himself and others—out of an egocentric rather than an essentially social attitude. In these imitative movements there is little adaptation of himself to others.

Later the purposive or reflective element enters more largely into the child's reproduction of the movements and ideas of those around him. When he is old enough to play with other children, he tends to imitate their play. Thus he learns "social compliance." From six to ten years of age he imitates the life about him, and sometimes involuntarily the mannerisms of others. The make-believe play in which children pretend to be someone else gives them a kind of tryout experience in being different kinds of personalities. As the child grows in age and social experience, he may imitate less and resist social pressure more. Both kinds of behavior represent important stages in his development.

Why do children imitate? There is probably an original attentiveness to the acts and sounds of other human beings and an "original satisfyingness of doing what others do." These original impulses seem to form the foundations of the tendencies toward imitation. Although, at first, a child's imitation of others may be unconscious, it later becomes purposive. He deliberately imitates the acts of older brothers and sisters, playmates, and parents who are doing things that he wants to do and getting things that he desires. The child sees someone obtain by a certain method something he also desires; he therefore imitates the method in order to get the desired end. The tendency to imitate is strongest under the following conditions: when the action is necessary for social intercourse, when it is in line with existing impulses, when it is interesting, when it furthers the individual's purpose or desire, when

the idea of the action is very vivid and monopolizes attention, or when the act of imitation increases the reality or understanding of the action for the individual. In all of these situations interest appears to be a common factor.

What is the developmental value of imitation? Imitation is an element in much of the learning of children and adults. The imitation of specific speech sounds, for example, provides the essential basis for learning the language. Imitation of efficient methods of doing things eliminates a good deal of learning by trial and error. Knowledge and skill acquired in part by imitation supply the soil for initiative and originality. The popularity of demonstrations as a teaching device on all educational levels and especially in practical fields such as shopwork, home economics, and nursing indicates the role of imitation in formal education.

Imitation of the ways of people in his environment contributes largely to the child's socialization. He is constantly subjected to social stimuli and is influenced by them. He is likely to show consideration for others and to speak in gentle tones if persons in his environment do these things and if they give approval for similar behavior on his part.

The role of the parent and teacher is to help the child to use imitation to further his best development and to guard against too much imitation of cultural pressures that may interfere with the development of his special abilities and talents. The person imitated is obviously an important factor. With young children the mother's action tends to be imitated more frequently than that of strangers or of other members of the household. The ideals and standards of the people in the child's environment are of utmost importance because these, too, are imitated and direct and motivate a child's specific behavior.—R.S.

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INCENTIVES. See: **MOTIVATION.**

INFANCY AND EARLY CHILDHOOD (from the pediatric point of view). Infancy and early childhood are markedly influenced by inheritance. Not only is our constitution inherited but certain diseases are definitely familial. Degenerative diseases of the nervous and muscular system, certain types of bone diseases, a group of anemias, and some metabolic anomalies usually make their appearance in infancy and early childhood. Diabetes, and cancer appear to run in some families. If there is one person in the family with a serious malformation, the future children have twenty times more chance to be handicapped by some congenital malformation than if the family history is negative. Some of the malformations are incompatible with life; so they are seen only in infants. Hemophilia and color blindness are sex linked hereditary diseases, transmitted by females but most frequently attacking males.

Certain abnormal conditions are not hereditary but the susceptibility for them is inherited and if some environmental factor is also present the disease will be manifested. Allergies like hay fever, asthma, eczema and hives belong to this category.

Some diseases are hereditary by direct transmission through the placenta, provided the mother actually has the disease while the child is in the uterus. These diseases are: syphilis, rare instances of tuberculosis, malaria, typhoid fever and some of the contagious childhood diseases. Poisons and deficiency diseases might also reach the child through placental transmission.

Besides the hereditary background of the infant the next important factor is an easy and uneventful delivery. This is best achieved if the pregnant mother has had proper prenatal care and if the delivery has occurred in a well equipped hospital and is conducted by a well trained obstetrician who can handle predictable and unpredictable complications of labor. With the above mentioned precautions birth injuries and various neonatal infections occur less frequently; neonatal asphyxia, erythroblastosis fetalis, which is a peculiar blood disease, can be treated more quickly and efficiently.

Five per cent of all babies are not full term infants, but prematures. From a pediatric point of view an infant who weighs less than 5½ pounds at birth is considered a premature. Most of the twins belong in the same category as real prematures. Prematurity is a great handicap. 70% of all deaths under one day of life and 48% of all deaths under two weeks of life are due to prematurity. The next important cause of death under the age of two weeks is due to accidents of labor. This represents 11% of all deaths within this age. Both of these causes of death can be effectively influenced by good prenatal care and expert obstetrical management of the confinement.

The death rate in New York City under one year of age per 1000 living births decreased from 120 during 1900 to about 29 in 1942. The greatest decrease occurred in the disease of the alimentary tract. This is because of our better milk supply and more expert infant feeding. The least decrease was observed in deaths due to prematurity and birth injuries. The wide use of chemotherapy in recent years has made an impressive dent in the death rate of the pneumonias and other infections of infancy.

In the past breast feeding was considered of major importance for the safe raising of infants. In recent years, however, so much progress has been made in the methods of artificial feeding that breast feeding has become a less important issue. Furthermore, the restless life which our complex economic, social and cultural mode of living imposes on us has gradually diminished the number of placid mothers who can nurse their babies successfully. For the last few years we have been aware of the fact that successful nursing does not depend on what the mother eats but rather on what her emotional balance is. Now that artificial feeding has become safe, it oftentimes seems to be a wiser policy to take the baby off the mother's breast if to make her calm and well balanced offer great difficulties. If a breast-fed baby appears unhappy, cries a great deal, has poor quality stools, vomits or sleeps poorly, but at the same time is physically normal, artificial feeding solves the problem in the majority of cases. The availability of the many natural and synthetic

vitamins enables us to supplement the formula with the necessary food essentials quite satisfactorily. Solid food is usually added at the age of three to four months. Breast feeding is terminated around the age of six months. The universal custom of exposing infants and young children to periodic health supervision by the pediatrician has markedly improved the general nutrition, health and development of the present generation of infants and children.

Proper growth and development require the absence of diseases, a well balanced diet, sufficient sleep, some relaxation and hygienic environment. In sizing up growth and development, standard weight and height charts are only rough guides. Each child is an individual with a tempo of his own in every respect. Therefore, the continuous upward trend in all phases of growth and development is more important than the conformity with a given average.

As far as diseases are concerned, all of them are more efficiently treated in the acute stage than if they have become chronic. Early diagnosis and prompt treatment are of prime importance.

There are a number of diseases which can be prevented by prophylactic inoculations. Smallpox and diphtheria have been practically wiped out from our part of the world by universal immunization. Whooping cough and tetanus are also among the maladies against which effective preventive treatment is becoming more and more popular.

Congenital syphilis will gradually disappear by the recognition and effective treatment of syphilitic mothers. The obligatory premarital blood test for lues is an important step towards conquering the placental transmission of this disease. Periodic blood testing of pregnant women would be the next valuable step in the same direction.

We know that with a very few exceptions all tuberculosis in children develops from exposure to some infected person in the child's environment. Better tuberculosis control by means of periodic chest Roentgenograms of the general population is undoubtedly responsible for the decrease of tuberculosis among children.

The enteric diseases like typhoid fever and dysentery are best controlled by

the health department of various communities.

Pneumonia and many other infections are on the decline not because we can prevent them better than in the past, but because their treatment has become more effective with the sulfa drugs.

A number of diseases fail to give symptoms until they have become far advanced. Diabetes, kidney diseases and some of the anemias belong to this category. In order to treat them early it is desirable to complete the periodic physical examination of each child with urine tests and blood counts.

Unfortunately we have no effective weapon against the most important human disease, the common cold. However, it is an accepted fact that if each cold is taken seriously by limiting the activities of the affected persons while symptoms are present, the incidence of complications will grow less. By this indirect and cumbersome method we are in a position to decrease the frequency of complications like ear infections, mastoid infections, pneumonia, heart disease, kidney disease, meningitis, etc.

In addition to the above mentioned diseases, there are a number of others which we cannot prevent; however, we get better results with early treatment. For this reason it is a very unwise policy to hesitate about obtaining expert opinion when even the mildest symptoms of disease occur.

The second factor which is required for optimal growth and development is a well balanced diet. The proper diet of infants under one year of age can be best worked out by the supervising physician. Beyond the age of one year changes in the diet are less frequently needed; therefore, the mother can handle them herself, provided she understands the essentials of a well balanced diet and the value of the various customary food items. For this reason we should welcome the many free diet courses which various agencies are offering on account of the war. Nutrition courses should be part of every school curriculum both in war and in peace time. It was estimated in 1941 by the leading nutritionists of this country that with proper knowledge it is possible to construct a well balanced diet for 32 cents per person per day. Nevertheless, Hazel K. Stiebeling found

in a nutritional survey of the U. S. A. that 35% of the entire population subsists on a medically deficient diet. Taking into consideration only the professional and business people whose average earning was \$1950 per year, the incidence of families living on hygienically "poor" diet was 20%. This figure indicates that it is not enough to have the money to buy the food, but knowledge is also necessary in order to spend one's food money wisely. Sherman, one of the outstanding diet experts of this country, advises families to spend one third of their food money on milk and dairy products, one third on meat and one third on fruits and vegetables.

In constructing a well balanced diet one has not only to consider sufficient quantity of calories, 15% of which should be made up by biologically good quality proteins, but special attention should be paid to a sufficient amount of calcium, iron and vitamins. Although in recent years frank deficiency diseases are less frequently seen in the U. S. A., subclinical deficiency diseases are quite prevalent. They must have been present in the past also, only we knew less about their symptomatology and their cure. At present our knowledge concerning vitamins is progressing by leaps and bounds. Nine of the ten necessary vitamins for optimal health can be manufactured synthetically. This fact enables us to study their effect on health more scientifically. Many of the mild deficiencies give only vague symptoms like poor appetite, inadequate gain and growth, lassitude, nervousness, etc. To find out which of the important food essentials are at fault in producing these indefinite symptoms is not always simple. The physician has not only to analyze the customary food intake of the child but sometimes the cooking habits of the mother have to be revised. Fortunately, in assessing a diet, the physician does not have to consider all the 36 essential items which, according to our present knowledge, a balanced diet should contain. If one finds that the diet is satisfactory from point of view of calories, proteins, calcium, iron and vitamins, it is usually found that the other essential ingredients are also well covered. The outline of a balanced diet for the pre-school child is as follows:

- (1) One to one and a half pints of milk.
- (2) One teaspoonful of butter or fortified margarine three times a day.
- (3) Cereal, bread or potatoes at every meal.
- (4) A green and yellow vegetable daily.
- (5) One half to one glass of raw citrus fruit juice or tomatoes.
- (6) A small quantity of raw fruit and raw green leaves once or twice daily.
- (7) Egg, meat or cheese once or twice daily.

(8) Sweet deserts in small quantities once or twice daily at the end of meals.

(9) Unless we can expose the child to natural sunshine for several hours daily, Cod Liver Oil or some vitamin D concentrate should be given routinely, because our ordinary diet does not contain enough vitamin D.

In successful feeding of children one should give of every food item neither the minimum nor the maximum but the optimum. It is most commonly found both in private and in clinic practice that children are offered much more food than they can be expected to eat eagerly. Most mothers are anxious to have well fed children, and to achieve this they use various pressure methods to make children eat more than they would voluntarily. This procedure leads to a constant overloading of the child's stomach with the resulting wane of appetite. Because of the decreased appetite, the child will want to eat less; as a result, the mother gets more anxious and more forcing is done. This vicious circle continues, and the situation becomes worse. The treatment is to persuade the mother to serve three small balanced meals and give the responsibility of the amount eaten to the child. Very often, although the mother agrees with the pediatrician about the undesirability of forcing food, she is unable to carry out her intellectual conviction. This is the time when psychological evaluation of the eating problem is required.

Aside from anorexia due to wrong feeding technique or caused by acute and chronic illness, or by an insufficient intake of the necessary vitamins or minerals, most anorexia is psychological due to some intrafamilial maladjustment of one or more members of the household. It often is just one link in a com-

plicated behavior problem pattern.

It is hoped that when more mothers receive systematic training about how to feed their families, they will not only acquire skill in selecting the proper food item, but will develop a better attitude concerning the technique of feeding.

The third item in proper growth and development is sufficient sleep and relaxation. Although there is a great deal of individual variation in the amount of sleep required by different children, the following broad standards are a fairly good guide:

First six months	....	16 to 18 hours
One year	.....	14 to 15 hours
Two years	.....	13 to 14 hours
Four years	.....	11 to 12 hours
Six years	.....	10 to 11 hours

It is unwise to make the sleeping environment of the child particularly protected from noise and light. If a child is accustomed to sleep in spite of slight disturbances around him, he will not require particularly perfect environment for sleeping when he grows older. The bed must be large enough and should have a firm mattress which helps to acquire good posture. Pillow under the head is a matter of habit and works against good posture. Furthermore, one should not keep children too warm at night, because this often causes restless sleep. A certain amount of relaxation in the course of the day is desirable for the nervous system but also from the point of view of proper growth and development. Many children who eat poorly, gain slowly and sleep restlessly show a spurt in their physical development if the activity of the day is interrupted by short periods of relaxation. Such periods are particularly valuable before and after meals.

The fourth condition for proper growth and development is a hygienic environment. If possible each child should have a room of his own. This should be good sized, well ventilated, sunshiny and without much furniture which prevents free and safe physical activity, within the room. The child should spend a certain part of the day in his room alone, without the stimulating presence of others around. In addition to this he should be for several

hours daily out of doors, having physical activities in the form of group games. Children are uninterested in doing formal exercises, therefore all normal and corrective exercise should take the form of games. Most city children benefit a great deal by an extra amount of outdoor activity during the hot summer months. This can be best achieved under the age of six by country vacations for the entire family, and above this age by sending the child to a suitable camp.

The clothing of children is often unsatisfactory from a physical point of view. The most common error is to have children wear too complicated and too many clothes. The ideal clothes are made of washable fabrics for indoor activities all year round, and for outdoor activities during warm weather. Protection against cold can be best achieved by comfortable, easily manageable sweaters and snow suits over the washable dresses and suits.

As far as footwear is concerned very few parents appreciate the fact that usage and not support builds muscles. Therefore, low, soft, large enough shoes with flexible soles are the best prevention against fallen arches or weak feet in general. All babies have flat feet before they learn to walk. Only severely fallen arches need to be corrected.

The training for urine and stool control is a natural process; it should not be forced. When the child develops regular times for stool evacuation, placing him on a chamber usually is all that is needed for establishing the habit of not soiling his diapers. The training for urine control during the day is possible only at a later time usually during the second year of life. Bladder control during sleep develops last. Most healthy children less than three years of age go through the night without urination. Enuresis beyond this age during the day or the night is a common form of behavior problem. Only about 5% of the enuretics in this country show organic disease in their urinary tract. The rest of them are improperly trained or have some psychological conflict.

In the past constipation was looked upon as a health menace. At present most pediatricians feel that constipation is not a disease, it does not interfere with health. If it is so severe that

it makes defecation painful one should overcome it preferably with dietary changes and only rarely with physics or rectal suppositories.

Periodic health examinations and more health education are the two most important means of raising the health standards of both adults and children. As sub-optimal health interferes with physical and mental growth and development, optimal health is particularly important among children.—C.K.

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INFERIORITY. The feeling of inferiority, with regard to specific situations and activities, is wide-spread and originates usually in childhood. Its causes reside commonly in some real or imaginary bodily fault, when viewed as such by prevailing public opinion. It may be excessively short or tall stature, overweight or underweight, defects of face, effects of disease (e. g. infantile paralysis, blindness, deafness) or crippling accident, etc. The cause may reside also in some social inadequacy; for instance, the feeling of inferiority, with its effects upon the development of personality, may arise in a child of poor family, who happens to associate himself with children of rich families. Home conditions may accentuate the attitude of insecurity, especially in broken homes. Racial intolerance contributes vastly to the phenomenon. Accidental experiences, mainly of emotional nature, may also underlie the feeling; for example, unpleasant experiences in the first days at school may create the feeling of

inadequacy which will last for many years.

No child can avoid the feeling of inadequacy in some situations. A certain amount of failures is the inevitable lot of every child; in fact, such failures are, to a degree, desirable, and the parents' efforts to shield the child from all unfavorable contacts with life are likely to bring about worse effects than happen under ordinary conditions of occasional neglect. The child's inadequacy in specific situations and activities is perfectly normal; in fact, it may prompt him to overcome the disadvantage or to redirect his efforts from the fields of activity where he is unsuccessful to those of more probable success. There are reasons to believe that many notable accomplishments in the field of science, philosophy, religion, art, political or economic life go back to early experiences and derive from them the emotional motivation required for any strong and sustained pursuit of high goals. In other words, the feeling of inadequacy, in some respects, may drive one in search of compensations for existing shortcomings. In many cases, such compensation, if reasonably successful, establishes the keen feeling of superiority which, in these instances, may be regarded as balancing the underlying feeling of inferiority.

Even when the attitude of inadequacy begins to characterize the child's social behavior in general—as among shy, bashful, retired, and taciturn children—there is no serious ground for alarm. Every parent should know that the child's feeling of inferiority can be much more readily corrected in early years than at the age of maturity. Among the best method of preventing the development of such psychological troubles, the following ones deserve to be mentioned:

- (1) That the child should not be entrusted with tasks beyond his powers; he should be given ample opportunities to enjoy success as a result of comparatively easy (but not too easy) efforts.

- (2) That the child manifesting signs of inferiority should be placed in the company of his equals or even slightly his inferiors; the questions of physical and mental equality should be carefully considered.

- (3) That the child's activities should

be directed into channels corresponding to his major interests and abilities.

It is true, of course, that the causes of inferiority may be so basic and powerful (when derived from some essential demands of life) that no compensation is sufficient; or compensations themselves may end in failure and thus aggravate the situation still further. Under such conditions, the child develops "a complex of inferiority" which should be treated by a qualified psychologist or pediatrician who is acquainted with the best ways of emotional reconditioning and is able to establish a suitable compensation or sublimation in the child.

The concept of inferiority was brought to the scholars' attention by Alfred Adler (1870-1937), originally a close follower of Freud, who parted with his master and established his own school in Vienna (1912). Adler's major investigations concerned the problem of the development of the ego, and formed the foundation of what he called "individual psychology."—R.B.W.

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INSECURITY. A child is insecure if for any reason he feels that he does not belong or does not fit in the group or in the situation in which he finds himself. Such feelings of insecurity may arise from various causes: from the attitudes of those about him, from a combination of environmental influences about him or because of his own inabilities and shortcomings, real or imagined.

The feeling of insecurity usually has its beginning in childhood. It is difficult for parents to conceal the fact that the child is unwanted; that his coming interfered with previous plans; that he is of the wrong sex; that caring for him limits the mother's social life or the possibility of her accepting work outside the home; or that providing for him is a strain on the family bud-

get. During the depression, many young children, both boys and girls, ran away from home and virtually became tramps in order to relieve their parents, or other adults providing for them, of such economic responsibilities because they had been made to feel a burden on the limited income.

This feeling of insecurity is very apt to develop in children of broken homes whether one parent is removed by death or other circumstances. This is especially true if the child is shifted from place to place or from one home to another.

Doubt about his parentage, doubt about religion, and other worries and tensions with which he cannot cope make the child insecure. A child brought too early in contact with death and burial may develop fears which undermine his feelings of security. If not given proper sex information, the adolescent child feels ashamed and thinks that normal sex drives are unworthy of him. He struggles to overcome them and as his interest in sex increases feels more and more insecure. Frequently his religious beliefs which also are in the formative period during adolescence add to his insecurity. Too frequently they seem to come in conflict with his developing sex life and also with new concepts which he is learning in science. If his religious life can become stabilized as he grows up, if he can be informed on the question of sex as he seeks such information, insecurity because of adolescent problems can be greatly reduced.

If the child is held too close to the parents and the home during his growing years, he may be so dependent upon them that, when he goes to college or marries and establishes his own home, the necessary psychological weaning may not have taken place and the individual will be homesick and miserable because he feels insecure and inadequate to the new circumstances.

Any type of inadequacy on the part of the child will give him insecurity. A physical handicap or under-sized body will make him feel inferior. Inability to do his school work to the satisfaction of his parents or the teacher, inability to compete on an equal basis with his playmates, a speech defect, or even lack of good looks or good clothes will make him feel insecure. Too harsh

discipline and lack of understanding at home or at school will accentuate such feelings.

The child needs to feel secure in order to develop properly. The home and the family circle should provide the first and final basis of security for him. He should feel that home is place where he can go and be welcomed and protected. Parents should not give him reason to doubt their desire and ability to care for him. He should feel wanted and loved. He also should never have doubts about the integrity and social standing of his parents. Training and discipline should use the social motive of need for security to develop the child to make him feel adequate. They should prepare him and help him to meet life's problems with the confidence that competition is fair and that he is equipped to meet it with a reasonable measure of success. As he learns thus to depend upon himself and trust his own abilities, he will not feel insecure as he normally leaves the protecting circle of the home.

Teachers and parents should strive to help the child overcome any physical, mental, or social handicaps he may have which tend to undermine his chances for success. If the child has handicaps which he cannot hope to overcome, he should be directed to ways of compensating for them through other channels of endeavor.

Adults are constantly seeking security. Even though they come to feel secure in a particular area, insecurity of a different type arises, and thus the security motive is constantly modified and shifting throughout life. Thus humans are motivated to achieve in a degree and to an extent not otherwise possible. In the final analysis, the present war is a struggle of nations for security.—M.L.S.

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INSTINCT. The term INSTINCT has occupied a prominent place in the history of psychology. Early conceptions contrasted instinct with reason; instinct being, as James defined it, "the

faculty of acting in such a way as to produce certain ends, without foresight of the ends, and without previous education in the performance." Rational activities, on the other hand, are products of experience or learning and involve a knowledge of the ends sought.

Modern psychological thought tends to view instincts as specific innate tendencies to reaction arising from stimuli either from within the organism or from an outside situation. Instinctive responses are complex and subject to modification from earliest infancy. Reflex activities, on the other hand, are simple, direct motor responses to sensory stimuli and very much less subject to modification by experience. The recent developments in child psychology have shifted the emphasis from the fixed character of instincts, as formerly held, to the modification of these tendencies and to the possibilities of changing and directing them.

Very few purely unlearned or instinctive activities are to be found in adults, since almost from the very beginning of life the environment begins to exert various influences on the primitive act. The moment learning enters, the original unlearned act ceases to that degree to be unlearned. If an activity is performed without any previous activity entering into its performance it is called an **UNLEARNED** or **INSTINCTIVE** activity. The structural basis upon which the activity depends has been prepared by the normal growth processes and no learning is necessary for carrying on the activity.

Because of the difficulty of separating learned from unlearned behavior, psychologists are inclined to minimize the use of the terms **INSTINCT** and **HABIT**. For example, Gates instead of speaking of instincts, speaks of "dominant urges," and Woodworth speaks of "unlearned motives." This makes it possible to discuss dominant human activities that owe a definite part of their makeup to inherited nature, but whose everyday expression may be greatly modified by learning, without being required to separate the unlearned from the learned components.

Much work has been done in discovering the **UNLEARNED TREND** in several dominant types of human behavior. For example, it is known that many of our learned activities are

motivated by organic conditions, such as hunger, thirst, bodily temperature, fatigue, accumulation of waste materials, glandular activity, and the like. While the unlearned activities may be distinguished from those that are learned, yet in life the two work together, the organic part often starting off a complicated system of learned activities. As an illustration we may take the hundreds of learned activities associated with the organic need for food and the satisfaction of the hunger motive. Several of the more obvious ones that might be mentioned are: eating habits and customs, table manners, social festivities centering around food; banquets, dinners, picnics, and the various 'etiquettes' appropriate to them.

Other responses to bodily or organic conditions are those related to such activities as resting, sleeping, voiding, breathing, temperature, glandular action, and the like.

Next to hunger as a dominant human urge comes the sex or mating motive. Most of sex and parental behavior is learned. But underneath the learned behavior are organic conditions that provide the drive for the various activities associated with these motives. There are, of course, customs, conventions and legal provisions regarding marriage and the marriage contract. Some of these deal with matters of age, physical and mental condition, and previous marital status. Others deal with matters pertaining to the care and training of children, inheritance of property, divorce, and the like. Many social and religious customs, ceremonies, conventions, taboos and restrictions have developed around these two motives.

Art, literature, poetry, music, and other exalted forms of expression not only draw heavily on these two motive forces for their subject matter, but much of the energy and inspiration that goes into them has its source in these motives as well. Energy normally connected with the sex drive is sublimated into these creative channels.

THE SOCIAL MOTIVE OR GREGARIOUS IMPULSE. Human beings have a desire to be with other human beings. The solitary person is considered exceptional. The social motive or gregarious impulse manifests itself not merely as a desire to be with others but also

to be actively taking part in what the group is doing. The strength of the impulse is shown in the feeling of extreme loneliness felt when left alone.

Much of the behavior constituting the desire to be in a group is learned. During the long period of infancy and childhood human beings are almost always with other people; hence, they naturally learn social behavior and associate likes and desires with the presence of others. For example, the infant learns very early that he gets his wants attended to if he expresses them in a manner that he finds to be most effective. The child learns that the group, be it the family, the gang, or the social group, satisfies his various wants and desires. He finds that the group helps him to get along more comfortably, that he feels safer and more secure when with others, that he gets greater pleasure from group games and activities, and that social activities are more pleasant and satisfying than solitary activities.

Social life is motivated by the impulse to be with the group. We see it manifested in the formation of cliques, gangs, clubs, societies, fraternal groups, business and professional associations, and the like. Loyalties are easily developed around the group motive. It is a strong and dependable motive.

THE SELF-ASSERTIVE OR MASTERY MOTIVE. The desire to succeed, to excel, to dominate persons and things, to resist domination by others, to win over a rival, to overcome opposition, to engage in competition, and numerous activities of this sort, in which we as human beings engage, are expressions of the self-assertive or mastery motive, coupled with social approval. That there is a strong unlearned basis for the mastery motive is indicated by the persistence of the desire to master or dominate others as seen in the child emerging from infancy. He persists in keeping himself in the foreground by means of "showing off," boasting, calling attention to his accomplishments, and exhibiting feats of daring, strength, and skill.

Brooks says, "We have data from observing children at various ages, especially from observing and reobserving the same group of children for several years which indicate that self-

assertion is a childhood trait whose modification and socialization is a difficult problem. Kindergarten and primary teachers have to modify and redirect this trait among children from four to eight years old."

Independence, leadership, and force of personality have their source in the mastery motive. These normally increase as the child grows, has greater experience, and is given more freedom and responsibility.

APPROVAL AND DISAPPROVAL. The desire for social approval and avoidance of disapproval or scorn are strong motives affecting the lives of children and adults alike. Without exception every normal human being reacts favorably to the approval of others. The approving glance, smile, word, or gesture arouses feelings of pleasure and satisfaction which have a positive and beneficial effect on activity and conduct.

The desire for social approval motivates many activities in children. Children will engage in various show-off activities, display their skill in tricks and stunts, exhibit courage and daring, compete in contests of strength, endurance and agility; they will boast, shout, act "hardboiled," display wit and humor, in fact, their inventiveness of activities with which to win approval is almost unlimited. Consequently, we have here a very powerful motive upon which to build desirable habits and to shape conduct along acceptable lines. Coupled with the desire to avoid disapproval, it is a most powerful force which parents, teachers, and social leaders may use in shaping desirable conduct, manners, customs, and conventions. It is a strong force in civic, social and moral development, and it applies with equal strength to adolescents and adults.

Adolescents and adults are motivated in their behavior fully as much by the desire for social approval and avoidance of scorn as are children, except that they are likely to be more subtle and concealed about their methods. The means employed vary greatly. Attention to clothes and appearance figures considerably after the age of childhood. Important friends, relatives, travel, achievements, wealth, position, honors, athletic success, and scores of other activities that might be mentioned,

figure strongly in the lives of adolescents and adults largely because of the dominant urge of social approval.

The desire to avoid social disapproval exerts a strong influence on human behavior. The mother's disapproving glance, the shake of the head, or the uttered "No, No," deters the impending act of the infant. Children are unhappy and even miserable when they have incurred the disapproval of their group. Adolescents feel ashamed and humiliated when they commit social blunders. Few adults can stand the scorn of the untipped waiter or porter.

Public criticism and open condemnation are the most powerful forces for social control known. The moral value of public opinion is well known. Public opinion aroused against a social or political evil is infinitely more effective in curbing the evil than laws and regulations.

Disapproval can be most devastating in its effect on the personality. Continuous disapproval results in discouragement and failure, and may ultimately lead to a feeling of hopelessness and inadequacy that may cause a nervous or mental disorder.

PHYSICAL ACTIVITY, MANIPULATION, EXPLORATION, AND CURIOSITY. These dominant tendencies are more or less related, all having to do with satisfying the innate desire for physical and mental activity. The normal healthy child has a desire to be physically active. He desires to run, jump, climb, roll, swing, balance himself on narrow boards and fences, and engage in active games and sports.

The healthy infant lying in its crib goes through various arm, leg, neck, and body movements. He soon learns to reach, grasp, push, throw and creep. Next he learns to stand, walk, run, and climb. Most of these activities are learned, but the learning is motivated by the impulse to be physically active. This impulse is aroused either by stimuli within the body, by external stimuli, or by a combination of both. While it is true that the carrying out of the impulse to move the arms, legs, and body, and later to reach, grasp, push, creep, walk, run, and climb, and other bodily activities is satisfying, yet there is no doubt that these activities greatly enhance the satisfaction experienced. The infant reaches, creeps, or

walks to reach a goal or object or to satisfy his curiosity about things around him.

The child runs and climbs to satisfy the impulse to be physically active, but events and objects around him stimulate and direct his activity. The desire for physical activity of the gross bodily type continues through childhood and adolescence, and begins to wane after physical maturity is reached. This impulse furnishes the basis for healthful bodily development as well as outlets for recreational pleasures.

The impulse to manipulate and handle objects follows the random movement stage in the infant. By pulling, pushing, turning, handling, pounding, dropping and throwing things, the infant satisfies a strong inner urge to manipulate objects and also gains skill in the use of its hands and fingers. The manipulative tendency furnishes the basis for skill and dexterity in the use of the hands and fingers, developed to such a high degree in artists, musicians, technicians, surgeons, typists, and skilled tradesmen.

Closely associated with manipulation is the tendency to explore objects and conditions in one's environment. As the infant manipulates objects, he also explores them with his eyes, hands and mouth. He watches a moving light and fixes his eyes on a bright object. After the child is able to walk, there is no end to his exploratory activities. His curiosity leads him to explore and examine literally everything around him. When he has learned to talk, his exploratory impulse leads him to endless questioning. He has insatiable curiosity and desire to examine and explore. Curiosity is the great drive to knowledge, exploration, discovery, and invention. It is a strong factor in learning.

FIGHTING. The impulse to fight is aroused by restraining or interfering with an activity already under way. It may be aroused by objects or persons. The emotion accompanying fighting is anger or rage. The reactions of an infant whose arms and legs are held tightly are those of fighting. It struggles, squirms, cries and screams, stiffens its body, and gets red with anger. The fighting response in children is well known. Many are ready to fight at the proverbial drop of the hat. Many boys

will go out of their way to start a fight. They will form gangs merely to fight other gangs. They derive real satisfaction through gratifying the urge to fight. Despite long and continuous training against pugnacious behavior, we frequently find grown-ups responding to the impulse in some of its most primitive forms.

We should not look upon the fighting impulse as being altogether bad and undesirable. On the contrary, when properly controlled and directed into the right channels, the fighting impulse is of tremendous value to both the individual and society. From the standpoint of successfully overcoming the obstacles of life and of maintaining good mental health, the proper fighting spirit is most important. Nothing can quite take the place of the proper fighting spirit for furthering desirable social ideals and practices and for successfully combatting social and political evils.

Rather than suppress the fighting impulse in children we should strive to direct it into approved channels by providing substitute activities which have character building values.

CONFLICT OF MOTIVES. The foregoing is by no means a complete listing of dominant human urges, nor is any attempt made here to classify human motives. For these the interested reader is referred to the references below. Our chief interest in the present discussion is to present the problem of motives or drives as it pertains to the problem of child guidance. Those interested in this problem are less concerned with labels and classifications than with the understanding of the role of instincts in child development, their place in the growth of personality, and methods of how they may be redirected, modified, and controlled.

The foregoing are the chief instinctive tendencies that influence the behavior of children and adolescents. Some motives are opposed to certain other motives, for example, the mastery motive prompts action that is opposed to submissive behavior. Pugnacity is also opposed to submission. The desire for social approval may be opposed by the fear of disapproval. When this occurs we have a conflict of motives, in which the promptings of one motive are balk-

ed or thwarted by those of another. Such conflicts occur frequently in the lives of children and adolescents. When conflict of motives occurs we have a state of indecision. In this state, action or adjustment is suspended until the right-of-way is given to the favored motive. Indecision may amount to little more than hesitancy, the suspension lasting but a short time during which a decision is reached, or it may amount to vacillation which consists in swinging from one desirable action to another without being able to arrive at a definite choice.

The state of indecision is an unpleasant state; hence, there is usually a decided effort to reach a state of decision between conflicting motives. Many personality disturbances are caused by conflicts of dominant urges, either among themselves or with the environment. In a case of conflict between dominant urges, a number of things may happen to the thwarted urge. (1) It may gradually be forgotten after meeting repeatedly with failure; (2) It may be gratified in a camouflaged form, as for example, instead of giving in to the impulse to fight, one may adopt a superior attitude of disdain and scorn; (3) It may be put off till some other time; (4) It may be sublimated; as for example, the sex drive may be diverted into more "sublime" channels, such as poetry; (5) It may be satisfied by various defense mechanisms, such as "sour grapes" or "Pollyanna" attitudes; (6) It may be satisfied by day-dreams; (7) It may be repressed.

DIRECTION, MODIFICATION, AND CONTROL. In order to live successfully, we must direct the energies derived from various motives and drives into channels from which successful action may result. When this is done the conflict of motives which so often plays havoc with the personality will be avoided. To do his best work the individual must be free from conflicts and he must be deriving satisfaction that comes from expression of motives and impulses. As life becomes more complex, reactions to dominant urges need direction, modification and control in order that the best interests of the individual and society may be served. These are accomplished through the process of education and training.

They are directed at either inhibiting the inborn response or at substituting another response in place of it.

Inhibition of the inborn response may be secured in three ways. (1) The stimulus that arouses the response may be withheld or avoided. (2) Displeasure, social disapproval, or punishment may be attached to the response. (3) An approved response may be substituted for the undesirable response.

Regarding the first method it should be said that because of the complexity of life many situations arousing undesirable response cannot be controlled. However, with a knowledge of the various dominant urges and their responses, especially those pertaining to children and adolescents, parents, teachers, social workers and leaders of children and young people will often be able to avoid situations that elicit such undesirable responses. For example: the fighting response may often be avoided by controlling situations that lead to pugnacious behavior. Similarly, teasing, bullying, and envious and jealous behavior may frequently be avoided in children by so directing and supervising their activities that situations calling forth these responses are withheld or avoided.

When situations calling forth undesirable responses cannot be withheld or avoided, the second method, that of attaching displeasure, social disapproval, or punishment to the response, may be employed. This type of control involves discipline which is still a very necessary element in the proper training of children. Since the desire to avoid disapproval, displeasure, and annoyance or pain is also a part of the native equipment of human beings, it is entirely in accord with good psychological procedure to use these native tendencies in the training and guidance of children.

Substitution of a desirable for an undesirable response is generally to be preferred over the other two methods as a means of controlling dominant urges. This involves the principle of the conditioned response. The normal response to a native tendency is inhibited while a substitute or 'conditioned' activity is used. In time the conditioning process becomes so strongly established that the new response becomes automatic or habitual. This is the process of re-

education of instinctive tendencies. The principle is extremely important in child training and guidance. The process of conditioning is greatly facilitated by attaching pleasure and satisfaction to the desired response and annoyance or dissatisfaction to the original undesired response. Many repetitions may be necessary to make the conditioned response habitual.—A.D.M.

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INTEGRATIVE BEHAVIOR. Spontaneous, voluntary responses to differences in other individuals may be described as integrative in so far as they serve to fuse the activities of two or more individuals into a shared activity satisfying to both. H. H. Anderson and his pupils have made observational studies of integrative behavior and its opposite, domination (q. v.), in preschool children, school children, and teachers. Integrative behavior in one child begets an integrative response in others, whereas domination begets domination. Integrative behavior on the part of the teacher is reflected in cooperation by the pupils, whereas domination by the teacher may lead either to rebellion or to apathy. Cooperative habits learned under an integrative teacher tend to persist, thus facilitating adjustment in later school life.

To obtain an accurate observational record of this aspect of teacher-pupil contacts, Anderson established checklists of behavior items which were to be recorded as integrative and items to be recorded as dominative. On the integrative list were such items as "teacher asks for volunteers", "teacher answers pupil's question", "teacher accepts pupil's suggestion", "teacher grants pupil's request", "teacher accepts pupil's refusal and calls on another child", etc. On the dominative list were such items as "teacher tells children to do something", "teacher reprimands pupil", "teacher denies pupil's request", etc.

Anderson's terminology and observational technique provide means for the

scientific study of personality differences not previously accessible to direct investigation. They lift the whole subject of school "discipline" out of the realm of tradition, philosophical speculation, and special pleading, and make possible an objective analysis of facts.—M.F.M.

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INTELLIGENCE TESTS. HISTORY. The dictum of Kant that psychology could never become a science because the processes of mind cannot be subjected to measurement as can the phenomena of the physical sciences has certainly been refuted by the prolific publications from the psychophysical laboratories and from the mental test group. The rebutting argument that even the "precise" measurements of the physical sciences are dependent upon mental processes and are consequently only as accurate as they are is not a matter for discussion here. Either the work of psychology has been vain effort or it has an established function in measurement. The former is a conclusion that could not be reached by anyone in a position to judge.

The original stimulus in the development of the mental test movement undoubtedly came from Quetelet and Galton with their constant emphasis upon the importance of small individual differences and the lawful nature of their occurrence (according to the normal curve already familiar in the physical sciences). While Galton dabbled in some mental tests, his chief importance lies in the emphasis he placed upon individual differences and the possibility of measuring them.

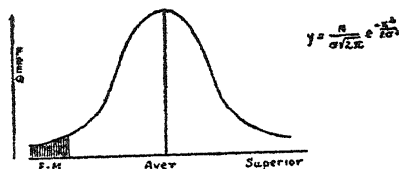
The pioneer in modern mental testing was Alfred Binet, born in 1857, in Nice, France. With Beaunis, he founded the Psychological Laboratory at the Sorbonne (1889). Appalled by the fact that 50% of French children failed in their schoolwork, Binet concluded that it was not sufficient to consider the

existence of only two homogeneous groups, the feeble-minded and normal, but that the entire range of human intellectual ability could be considered as a series of minute differences ranging from the lowest to the brightest. What was necessary was a method of measuring these fine differences in an individual and then adjusting work expectancy to his measured capacity. We must have fewer tests of sensory processes and more of the complex processes. Such tests should involve: mental calculation, reconstruction of disarranged sentences, comprehension of abstract processes, immediate memory, eye-hand coordination, questions of moral or social propriety, etc. These tests have ever since formed a basis of all Binet-type scales. Working with Simon, Binet published the famous first scale, (1904), emphasizing the idea that individuals should be rated with reference to one another rather than on an absolute scale. In a 1908 revision Binet incorporated the mental level concept so that the average child of a certain chronological age would have a corresponding mental age. Subsequent revisions for use in America were published by Goddard (1913), Terman (1916), Kuhlmann (1922), Terman and Merrill (1937). The latter is the most widely used scale. The intelligence quotient (I. Q.) is usually attributed to Stern (1914) who originally suggested the use of the ratio of achievement to age as an index although Terman (1916) first used the index M.A./C.A. as the intelligence quotient (I. Q.).

The history of performance tests stems back to Itard and Pinel who were using the familiar 3-disc and 3-figure formboards as teaching material for the feeble-minded at the close of the 18th century. They were further used as teaching material by Sequin, Sante de Sanctis and Montessori. Their first use as standardized tests for classification was by Sante de Sanctis and Norsworthy (1906). The period of growth of the standardized test of intelligence is certainly short but is equally certainly prolific.

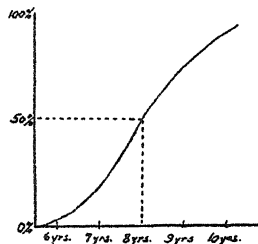
STATISTICAL BACKGROUND OF TEST CONSTRUCTION. Theory of Individual Differences: The dichotomous classification of individuals as feeble-minded or normal prevalent prior to and during the time of Binet started

to crumble under the stimulus of Quetelet's L'HOMME MOYEN and the concept of a continuous range of minute individual differences. The pioneer diversified investigations of Quetelet, Galton, Binet, etc. firmly established the fact that measurements of human attributes, mental or physical, varied continuously in a lawful manner, distributing themselves according to the normal (or Gaussian) curve. Individuals could be ranked in intelligence from the profound idiot living a vegetative life to the intellectual giant, between which extremes could be found all possible degrees. Further, these extremes will be equally small in number or percentage, the number of individuals possessing a stated degree of intelligence increasing as the mid-point (the average) is approached. Normal intelligence will include all but a small percentage at the lower end of the scale, that percentage being determined upon the basis of a socio-legal definition and not by intelligence test scores. Graphically, human intelligence will distribute itself as in the figure



This normal curve of distribution has constant algebraic dimensions and has become the standard with which groups may be compared. Individuals may be compared with the group according to their position on the abscissa, frequently expressed in terms of σ , P. E. or some modification of these. If an 8 yr. test scored according to time is given to a group of 8 yr. old children a curve approximating the normal curve will be obtained, few short and few long times being obtained with an increasing frequency resulting as the group-determined average is approached from either end. Individual scores may then be compared with the group according to deviation from the average. If, on the other hand, this test is given to a heterogeneous age group the integral

form of the normal curve will be obtained. Individual success (on an all-or-none basis) may be compared with this in terms of percentile rank.



TEST STANDARDIZATION. The various intricacies and pitfalls of the process of test standardization cannot be touched upon here. A brief sketch of two typical standardization situations will have to suffice, the reader being referred to articles on the subject for greater detail. It is assumed that the reader is fully aware of the need for accurate standardization of a test—inaccurately or inadequately standardized tests are worthless.

First, the standardization of a performance test of intelligence involving chiefly the ability to visualize spatial relationship. After the author has constructed the test specifically to involve the ability he cannot 'ex-cathedra' announce that it is a test for 8 yr. old children. It must be administered to several hundred unselected (a group heterogeneous as to ability) children over a range of age groups. Suppose, at the end of this process, the following results are obtained:

Age (yrs.)	% failed	% successful
6	90%	10%
7	75%	25%
8	50%	50%
9	23%	77%
10	7%	93%

It is obvious that below the 8 yr. level the test is too difficult, discriminating adequately in only a small percentage of the cases. Above 8 yrs., however, the test fails to discriminate, the percentage of success being too high. The point where an individual of a stated age has a 50-50 chance of success, where the test is neither too difficult nor too easy for his age group, is taken as the level of standardization

—8 yr. level in this hypothetical case. The test will, however, prove more valuable as a discriminating instrument at other ages. A 6 yr. old who is successful may be compared with the norms for his own group and be rated as superior to 90% (or as having 8 yr. ability in spatial visualization). Similarly, a 10 yr. old who failed could be rated as deficient in the ability. Within the age level of standardization a normal curve of distribution may be expected. In other groups the distribution will be skewed, another indication that it is not a proper test for that group for some reason. After standardization, reliability and validity measures must be established (see below).

The standardization of test batteries of the Binet-type is fundamentally the same. Each test item must be similarly standardized in order to locate accurately the age level. The tests locating at the different ages are then grouped according to age levels. A tentative age scale has thus far been determined. The scale must then be administered as a battery to large numbers of unselected individuals of a wide range of ages. If then approximations of the normal curve of distribution are obtained at each subject age level, and for the distribution of total scores for the whole group, the test may be considered adequately standardized. Reliability and validity measures are the final indicators of the test's ultimate value.

TEST RELIABILITY AND VALIDITY. Of utmost importance in the construction, interpretation and evaluation of mental tests are the aspects of test reliability and test validity. Reliability refers to the consistency with which a test will measure upon theoretical subsequent repetitions (the correlation of a test with itself). Validity refers to the degree to which a test measures that which it purports to measure (the correlation with some accepted outside criterion).

RELIABILITY. It need not be emphasized that measurements in psychology are subject to a multitude of variable factors. The repetition of a test under identical conditions is no guarantee that the individual will obtain the same score nor that either score represents the individual's true ability. A highly reliable test ensures that, under comparable conditions, an indi-

vidual upon retesting will receive a comparable score. The common ways of determining the reliability or self-correlation of a test are: (1) repetition of the same test at different times; (2) the use of parallel forms; (3) the split-half method of using two comparable halves of the same test.

The first method has obvious deficiencies and is rarely used. Too short an interval between testing will produce spuriously high results because of the influence of memory, familiarity, fatigue, etc.; too long an interval, because of change of test conditions, factors of growth and intervening learning. The second method obviates most of the disadvantages of the first but adds one in that twice as much material must be prepared for no purpose other than finding reliability. The third method is the one most favored, the correlation between equivalent odd and even numbered items being used. The sole disadvantage arises from the fact that the true reliability of a whole test is greater than the reliability of a half-test. This may be overcome by use of the Spearman-Brown formula, enabling us to estimate the reliability of the whole from the calculated reliability of the half.

We can estimate reliability by means of the coefficient of reliability, the formula for which is

$$r_{\infty} = \sqrt{r_{1x}}$$

where r_{∞} = the correlation between a set of fallible scores and the true scores.

r_{11} = the correlation between two sets of fallible scores. The special Spearman-Brown formula for use with the split-half method is

$$r_{211} = \frac{2r_{11}}{1+r_{11}}$$

in which r_{211} = the reliability of the test doubled in length.

r_{11} = the reliability of the single length.

The higher the initial reliability, the smaller the increase in the coefficient.

High reliability may be obtained through a large number of items, great-

er test time, narrow range of difficulty, greater objectivity in scoring, homogeneity in material, etc. Lower reliability may be attributed to the reverse of these conditions as well as to the presence of interdependent items, probability of chance success, catch questions, etc.

VALIDITY. The determination of test validity demands the correlation of test results with some established outside criterion. A strictly valid test should measure only that which it purports to measure, just as a good test of vision should not measure in addition the individual's reading ability—irrelevant items must be excluded to ensure validity. A valid test of intelligence is one which discriminates correctly between those judged by other accepted tests or by experts to have varying degrees of this ability.

One method of establishing statistical validity is the correlation of the test and an accepted standardized test. Presumably a resulting high validity coefficient (r_{xy}) is evidence of high validity in either the qualitative or quantitative sense — and vice versa. Precautions are necessary, however. A low validity coefficient may be found when both are appraising the same ability, but when one or both have large random errors. A low coefficient in this case would merely mean that the prediction of X from Y is poor. Conversely, a high coefficient may be no conclusive proof of validity. A test may be measuring some aspect not the same as its criterion yet highly correlated with it.

Another method frequently used is the establishment of validity by use of competent judges as experts. Strictly speaking, this applies more readily to the determination of item validity, the individual test items being judged by experts as sampling adequately the ability supposedly being tested. If the test and the judges are appraising the same ability exclusively, the appraisals are qualitatively valid and vary only in random errors. The importance of objectivity in appraisal of this sort is obvious. The more judgments are affected by the individual idiosyncrasies of the judge, the lower the objectivity. If the judges agree in their judgments and in the values they assign, a condition of high objectivity and per se

of high validity is assumed to exist.

It has also been suggested that the validity of a test will depend upon errors of attenuation in the test as well as upon errors in the criterion. The more reliable the test, the less the influence of such errors; the longer the test, the greater its reliability. Hence increase the length of the test and you increase its validity. The increased validity to be expected by lengthening a test may be estimated from

$$r_{y(nx)} = \frac{r_{xy}}{\sqrt{1 - r_{xx}} + r_{xx}}$$

in which $r_{y(nx)}$ = the correlation between criterion Y and test X which has been increased n times in length.

r_{xy} = original r between Y and X.

r_{xx} = self-correlation of X (reliability).

The possible pitfalls in the promiscuous use of this method are obvious. The relationship between reliability and validity is clear in this formula. A test with low r_{xx} gains more in validity by lengthening than one already highly reliable. It is also true that, with two tests of the same r_{xy} , the one with the lower r_{xx} is the one to lengthen when the greatest increase in validity is desired.

Opinions vary as to what coefficients of reliability and validity are desirable in the selection of a good test. The general opinion seems to be that for measuring individuals, where the optimum should obtain, the coefficient of reliability should be no lower than .90 and preferably .94. Coefficients of validity should be correspondingly high although they will be, in the typical case, somewhat lower. For testing groups the minimum coefficients may be lower since the purpose of the testing is different, a general rather than a detailed picture being desired. In considering reliability and validity simultaneously, it should be pointed out that a test with a validity of .65 and a reliability of .75 is better than one with a validity of .45 and a reliability of .95. The latter is measuring the indefinite too consistently.

TYPES OF TESTS. Tests of intelligence are usually grouped into the following types:

1. Individual tests
 - a. Binet-type tests
 - b. Performance tests
2. Group tests
3. Miscellaneous unclassified types.

Another type of classification is the division into altitude, speed and breadth tests. Altitude or power tests are those in which there is no time limit and in which successive test items are of increasing complexity. The test may be considered to give an adequate sample of ability if there is sufficient time to allow the group to attempt 90% of the items. Speed or rate tests are those in which the individual items are homogeneous with regard to difficulty and so numerous that it is impossible to finish all within the rigid time limit set. Breadth tests are those which attempt to discover general achievement or knowledge, frequently using this as an indicator of intelligence. Test items may be of equal difficulty or of increasing complexity, have time limits or not. The mixture of these various types within single test batteries is generally held to be inadvisable because of the differences in approach necessary for the different test items and the resulting questionable meaning of any total score. A singular exception to this is the Kuhlmann battery "Tests of Mental Development," differentiating scoring for power and speed.

INDIVIDUAL TESTS. Binet-type Tests: These are perhaps the most familiar in popular discussion and the least understood of the tests of intelligence. The reason they are little understood probably lies in one of the inherent characteristics of this type of test. They are constructed entirely for individual oral administration and are dominantly altitude tests. Speed and breadth tests are only infrequently included. As such, they present many opportunities for coaching and practice. For this reason the content of the tests and methods of administration are reserved as much as possible for professional use only. It should also be noted that the individual orally administered test is the most flexible of all types. It is possible within the limits set up by the instructions and by the nature of the test to vary the method of administration in such a manner that the maximum possible estimate of the individual's ability is obtained. This is not

possible in other types.

A second characteristic is the variety of tests designed particularly to discriminate different degrees of ability but with no uniform attempt to analyze particular skills or information. The number of test items varies considerably but usually includes between 30 and 150. They are designed to sample particular abilities within a minimum of time, 30 seconds to 10 minutes per item being the approximate range with the average time per item being 3-4 minutes. Test items are arranged in either a continuous scale of increasing relative complexity or in groups at mental age levels. Test items vary little in content from scale to scale, including principally tests of: logical memory, immediate memory (memory span), reasoning, appreciation of spatial and numerical relationships, vocabulary, discrimination and comparison (sensory and ideational), comprehension of social or ethical situations, eye-hand coordination, absurdities (verbal and pictorial), speed and maturity of association (verbal and with objects as in naming tests), etc. The time for administration of a total scale varies from 30 to 90 minutes on the average, depending chiefly upon the number of items in the scale and upon the age of the individual.

A third characteristic concerns the resulting score. Scores from Binet-type tests are total scores rather than the profile chart common in achievement tests. Mental age (M.A.), Percent Average (P.A.), Intelligence Quotient (I. Q.) or some equivalent index is the score obtained and used in interpretation. Point scales are in fairly common use as are growth curves and developmental norms although they cannot be considered as typical of the group as a whole insofar as scoring is concerned.

Performance Tests: In contrast to the Binet-type tests, performance tests are considered as strictly non-verbal except insofar as instructions are concerned. These tests have the advantage in that they minimize the influence of language ability, it being possible in many cases to administer the tests to non-English speaking individuals or the low grade purely by use of meaningful gestures. Many experts regard the performance type as a better test of innate intelligence and criticize the Binet-type on

the ground that it places a premium upon language achievement. It might be pointed out, however, that higher r 's are obtained between language tests and total scores or school achievement than between any other type of test and the same criteria.

While the majority of performance tests involve the manipulation of concrete objects in some spatial setting, there must also be grouped here paper and pencil tests such as the various maze tracing types (the Army Beta is an excellent example although it is group administered). Fundamentally, performance tests present either one or a combination of the following problems: (1) the comparison of forms requiring different degrees of discrimination (chiefly replacing blocks in form-boards); (2) the reassembling of broken-down figures (i. e. the Mannikin Test); (3) the assembling of individual parts into a visually present pattern (i. e. Army Beta, Healy A); (4) the completion of partial patterns (i. e. picture completion tests).

Performance tests are scored in a variety of ways: (1) total time required for completion; (2) number of successful completions within a time limit; (3) number of errors; (4) number of moves; (5) weighed scores with penalties for excessive moves, errors or time; (6) combinations of the above. Scores thus obtained from single tests or batteries are interpreted by use of norms, by conversion into point scales or by the use of mental age equivalents.

GROUP TESTS. Concurrent with the development of the individual Binet-type test the foundations of the group test were being laid. The publications of Burt (1909), Brown (1910), Woodworth and Wells (1911) and Whipple (1914) introduced a variety of short mental tests and the fundamental techniques which were to form the basis of the first important group test, the United States Army mental tests Alpha and Beta (1917). Tests for these scales were selected to appraise intelligence for practical prediction. The items were so selected that they showed fairly high r 's with some criteria of intelligence and low r 's with each other. Although this ideal has never been fully realized in practice, it still forms the basis for selection of test items. It can be said that later tests of intelli-

gence have followed the Army tests in both the method of selection and in the form of actual test items. While the early tests were fundamentally for adults, later tests extended the scope down for use in lower school grades.

It should be pointed out that group tests have only a general predictive value and should never be used for individual analysis unless supplementing a Binet-type test or a battery of performance tests. Group tests have as their fundamental purpose the classification of individuals into general levels and the selection of those at the extremes for individual analysis. The difficulties inherent in group tests, particularly in use with children, are apparent in a moment's thought—lack of interest, inability to read, distracting external stimuli, failure to follow instructions, copying, etc. Individuals as such should never be finally diagnosed on the basis of results of a group test. A further evidence of the inadvisability of their use with individuals is shown by the range of r 's of .70-.95 reported between group and individual tests.

In addition to the theoretical basis for selection of test items noted above, there are several characteristics of group tests that should be pointed out: (1) the number of test items ranges from 25 to 250 approximately; (2) the time required for administration is usually short, rarely being over 60 minutes except in the complex tests at the college adult level where several hours may be required; (3) interest must be maintained by careful selection of test items; (4) the tests are arranged for ease and accuracy of scoring by non-professional personnel; (5) they are self-administering insofar as possible; (6) several equivalent forms are usually available to prevent cheating, coaching or practice effects; (7) they are adapted for use with large groups with wide differences in ability; (8) they are dominantly verbal in nature, although some non-verbal, such as Army Beta, are available.

The sub-tests or test items are of a fairly standard type being arranged in accordance with the author's particular theoretical point of view or purpose. The chief types of sub-tests involve: the detection of sensory handicaps, immediate or delayed recall, the apprecia-

ject for this article to consider. It should be pointed out, however, that it may provide the key to the next phase of mental test development. Already, tests designed to measure established factors of mind are being developed.

The obvious dangers in the interpretation of mental tests unfortunately are too frequently disregarded. First, the results of test administration are worth no more than the test itself—a 35 inch yardstick will always measure badly. Secondly, the results in any individual test are no better than the administrator. Only too often are tests administered by untrained and unskilled people. Such tests are worthless in their results. Psychological tests are for use by psychologists only. Thirdly, it follows that the interpretation of results should be exclusively in the hands of the professional. The untrained individual certainly is incapable of evaluating test results even though capable of passing out the papers for a self-administering test. Only too often are children pigeon-holed for their entire school career by inadequate appraisal of some number (i. e. an I. Q.).

Finally, it must be pointed out that test results must be approached with a full awareness of the fact that they are indicative of only a small part of the individual's total living situation. The influence of distracting elements during testing, fatigue, lack of interest, etc. are obvious. The broader situation including the individual's past history, physical condition, educational and vocational experience, recreational interest, social milieu and, most particularly, his present emotional response pattern must be considered as the major part of the picture against which and in terms of which all interpretation must ultimately be made.—R.L.S.

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INTERPRETATION OF DREAMS. In discussing the interpretation of dreams two concepts must be borne in mind: the nature of the dream elements and the technique of dream interpretation. The dream element is not in itself a primary and essential thing, a thought proper, but a substitute for something the knowledge of which is possessed by the dreamer although inaccessible to the consciousness of the dreamer or unconscious to him. The dream as a whole consists of a number of such elements the meaning of which is unconscious to the dreamer. The method is to allow other substitute ideas, from which we are able to divine that which lies hidden, to emerge into consciousness by means of free association among the individual elements. We can realize from this that the dream is the distorted substitute for something else, something unconscious, and that the task of dream interpretation is to discover these unconscious thoughts.

There are three important rules which must be observed in the work of dream interpretation.

1. We do not concern ourselves with the surface meaning of the dream, whether it be reasonable or absurd, clear or confused, for it does not constitute the unconscious thoughts we are seeking. The only limitation to the rule is to be found in the dreams of very young children.
2. We must confine our work to calling up substitute ideas for every element. We must not try to find something which fits in, nor to be concerned about how far the associations are taking us from the dream element.
3. We must continue the search until hidden unconscious thoughts which we are seeking appear of their own accord.

The dream as remembered, the manifest content, is not the real dream but

a distorted substitute which, by calling up substitute ideas, provides us with a means of approaching the thought proper, of bringing into consciousness the unconscious thoughts underlying the dream, or latent dream thoughts. If our recollection were at fault, all that would happen is that a further distortion of the substitute has taken place and this distortion has its motivations.

We must adhere to the hard and fast rule that no association must be withheld even though we may think it too unimportant, too absurd, too irrelevant or too unpleasant to speak of. The importance of adhering to this rule lies in the necessity for overcoming the resistance which prevents us from penetrating the hidden unconscious thoughts, the latent dream thoughts. This resistance is quantitative and its strength will depend upon the critical objections that have to be overcome before the unconscious thought is allowed to appear in consciousness. The application of the psychoanalytic technique of free association allows us to overcome the distortion as seen in the manifest content and replace it by the latent dream thought.

Children's dreams are short, clear, coherent and easy to understand; they are as a rule free from ambiguity. Not all children's dreams however are of this type, for distortion begins to appear very early in childhood. Dreams are recorded of children between the ages of five and eight years, which already show all the characteristics of the dreams of later life. Dreams occurring during the first five years of life are characterized usually as infantile because of their lack of distortion. We may find single dreams of the same type in later years of childhood and even in adults.

These children's dreams give us a way of obtaining trustworthy information about the essential nature of dreams. We need no analysis nor the employment of any technique to understand these dreams. We do not have to question the child who relates his dream. But we must know something about the dreamer's life, for in every instance there is some experience from the previous day, the day residue as it is called, which explains the dream. The dream is the mind's reaction in sleep to the experience of the previous

day.

Freud relates the following examples:

1. A boy two years of age had to present someone with a basket of cherries as a birthday gift. He did it very unwillingly although he had been promised some of them for himself. The next morning he related this dream: "Hermann eaten all the cherries."
2. A little girl of three years went on a lake trip for the first time. When they came to land, she did not wish to leave the boat and cried bitterly; the time spent on the water had passed evidently too quickly for her. Next morning she said, "Last night I was sailing on the lake."
3. A boy of five years was taken on an excursion to the Escherntal near Hallstatt. The child had repeatedly endeavored to see the Simony Hut, on top of the Dachstein, through the telescope located at the lodgings at Aussee, but no one knew if he had succeeded. On the excursion the little boy continually asked, whenever a new mountain came into sight, "Is that the Dachstein?" The continued negative answers gradually caused him to withdraw and refuse to continue to climb. His actions were thought to be a result of overexertion, but the next morning he said quite happily, "Last night I dreamed that we were in the Simony Hut." Evidently it was with this expectation that he had taken part in the excursion.

These three dreams related by Freud give us all the information we need to interpret them. These childhood dreams are meaningful, complete, comprehensible mental acts. The absence of distortion makes interpretation unnecessary. The manifest and latent content are almost identical. This is due to the slight distortion which is manifested in children's dreams. The child's dream is seen to be a reaction to an experience of the previous day which has left behind a regret, a longing, or an unsatisfied wish. The dream gives us the direct undisguised fulfillment of this wish. We also see that the mental stimulus which has disturbed the child's sleep is an unsatisfied wish, and that his reaction to this is a dream.

The examples also show that dreams are brought about by a wish and that the content of the dream expresses a wish. It is to be noted that the wish is represented as fulfilled in the form of an hallucinatory experience. In the first dream the wish which gives rise to the dream is, "I should like to eat the cherries myself", the content of the dream is "He has eaten all the cherries." The wish in the second is, "I should like to sail on the lake" and this is fulfilled in the dream itself by, "I am sailing on the lake." The wish in the third is, "I should like to be in the Simony Hut" and this is fulfilled in the dream itself by, "We were in the Simony Hut." The slight difference between the latent and manifest dream shows the distortion of the latent dream thought, in the translation of the thought into an experience.

It thus becomes important as a first principle in the interpretation of dreams to undo this process of alteration which is a universal characteristic of all dreams. It is important to note that the dream not only becomes the fulfillment of a wish by merely reproducing the stimulus; it also allows the dreamer to live through the experience, removes it, sets it aside, relieves it.

Besides children's dreams there is another type of dreams in which no distortion is present and which we can recognize to be wish fulfillments. These are the dreams which are occasioned all through life by imperative physical needs such as hunger, thirst, sexual desires, etc., and are wish-fulfillments in the sense of being reactions to internal somatic stimuli. Such dreams occur to the sick, prisoners left to go hungry, and people who suffer privations while traveling or on expeditions. They show that under these circumstances they regularly dream about the satisfaction of their wants. An arctic explorer related that "Our dreams showed very clearly the direction our thoughts were taking. All dreams were about that outside world now so far away, but often they included a reference to our condition at the time, most frequently to eating and drinking. One dreamed of a three course dinner, another of whole mountains of tobacco, another of a ship which came to take him home." These dreams need no associations and like children's dreams

are interpretable directly from their manifest content.—S.Z.O.

Freud, S.: *Interpretation of Dreams*.

See: DREAMS.

INTROVERSION. ORIGIN OF THE CONCEPT. As indicated in the section dealing with extroversion, the concept of personality organization suggested by the term "introversion" originated with the Swiss psychoanalyst, C. G. Jung. It was Jung's belief that practically all persons could be classified as belonging to one of the contrasted types—the **INTROVERT** or inturning, and the **EXTROVERT** or outgoing personality. Introversion was described as a psychological condition in which the individual tends to direct his libido (life energy) inward and in which he is governed largely by subjective considerations. Jung recognized that patterns of introversion differed considerably and thus subdivided them into **THINKING**, **FEELING**, **INTUITIVE**, and **SENSATION** sub-types. It was said, however, that the introvert is typically sensitive, self-conscious, reserved, and characterized by a shut-in disposition.

As compared with the more out-turned extrovert (described in more detail under **EXTROVERSION**), the introvert is said to be the thinker whose plans and activities are centered upon himself, the subjective individual who resists suggestion and advice, the shy person who enjoys solitude and who is easily embarrassed when made the object of attention. Because of his frequent failure to consider the rights of others, he is considered self-centered and penurious. He is likewise inclined to be somewhat cynical, radical on political and social matters, and resentful of authoritative declarations. His lack of flexibility and social skill in general is said to incline the introvert toward occupations offering optimal independence and the opportunity of working alone, i. e., clerical work, writing, academic pursuits, and laboratory callings.

THE THEORY OF TYPES. Although observation has indicated that certain individuals resemble the personality picture defined as introversion, research in this field has shown that the major-

ity of persons cannot be categorized as belonging to distinct types. Tests of introversion-extroversion have made it clear that few individuals are either highly introverted or highly extroverted. Reliable samplings of personality patterns have shown that most persons fall somewhere between the extremes of a continuous curve of distribution and that no sharply defined types can be discerned. In short, the majority of individuals possess some of the characteristics of both introversion and extroversion, and are thus composites, or **AMBIVERTS**, so far as types are concerned. Only the relatively few who fall at the extreme ends of the distribution curve may properly be thought of as types.

A typical research in this field is that reported by Heidebreder in which results of an introversion-extroversion test were secured for 600 college students. An examination of the distribution of scores obtained does not support the dogma of separate, discrete types, but indicates a continuous gradation of personality patterns with the great majority of individuals clustering near the center of the distribution. As Heidebreder and others have noted, most children and adults answer some personality test items in a way indicative of introversion and others in a fashion diagnostic of extroversion. It has thus been concluded, not only that most individuals cannot be "typed" as to personality, but that attempts to classify them too rigidly in this respect may hinder a genuine understanding of their true personality organization.

THE ORIGIN OF INTROVERSION. It was Jung's belief that introversion and extroversion represent innate behavior tendencies which can, nevertheless, be modified to some extent by experience and training. He felt that each individual is endowed with the possibilities of both introvertive and extrovertive mechanisms, but that the direction of personality development is influenced by constitutional as well as environmental factors. Jung also pointed out the difficulty of diagnosing true introversion (and extroversion), brought about by the individual's tendency to maintain an adjustment with society through compensatory behavior designed to obscure extreme tendencies.

Jung's view of the genesis of intro-

version has been supported to some extent by researches in the field of child development. Buehler, Woolley, Marston, and others have reported evidence for the presence in children ranging from one to five years of age of pronounced introverted (and extroverted) behavior tendencies. The fact that such young children sometimes exhibit the in-turned, shy, self-conscious characteristics associated with introversion has been advanced as evidence that introversion as a personality pattern is in the main constitutionally determined. Such evidence does not, however, demonstrate the biological origin of personality traits.

There are those who disagree with Jung and contend that introversion in young children may develop as a result of the manner in which they are reared. They feel that introverted trends are to a considerable extent the natural result of the frustration of the child's dynamic need for a sense of security and selfhood. It is believed that harsh domination, rejection, indifference, and similar forms of mis-handling lead to the feeling of inadequacy, anxiety, self-concern, and subjective orientation characteristic of noticeably introverted children. On this basis introversion is regarded as accruing from the continual thwarting of the child's ego drive and as being perpetuated by his failure to develop the social skills requisite for acceptance by others. It is believed that the rejected child may be forced into the position of compensating for his lack of security by centering his thoughts upon himself and by retreating from the frustrations of the world of people and activities.

ANALYSIS OF THE INTROVERSION CONCEPT. In harmony with Jung's intuitive break-down of introversion into the four sub-types mentioned above, more recent students of the problem, especially Guilford, have endeavored to determine the sub-forms of introversion (and extroversion) by the method of factor analysis. It was felt that the introversion concept has been used in a broad blanket sense which obscures important varying patterns of introversion. It is obvious, for example, that quiet scholars who prefer to reflect on their academic pursuits and sober individuals who do not care for the

rustle and bustle of social affairs are quite unlike depressed and inferior persons whose egocentric tendencies cause them to develop neurotic symptoms. The first two sub-groups are for the most part neither maladjusted emotionally nor incapable of being sociable when the occasion demands. They may also be as ardent about service to humanity and social causes as their more extroverted friends.

It is thus enlightening to find that Guilford's analysis of the factors or clusters actually comprehended by the term introversion included (S) SOCIAL introversion, as indicated by withdrawal from contacts, (T) THINKING introversion, as exhibited by the tendency to meditate, to philosophize, and to analyze one's self, and (D) DEPRESSED introversion, as expressed by feelings of unworthiness and insecurity. These sub-forms of introversion are not synonymous with those proposed by Jung, but they have the advantage of having been as objectively determined as present psychometric methods will permit.

As this analysis indicates, there are VARYING PATTERNS as well as degrees of introversion (and extroversion). No useful purpose is thus served by designating a person as being an introvert without specifying in some detail the nature of his patterns of in-turned behavior. To understand an introvert it is necessary to describe his actions in a variety of concrete situations involving social behavior. The day appears to have passed when the term "Introversion" was acceptable as a description of a given individual's personality organization.—L.P.T.

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See: EXTROVERSION, TYPES OF PERSONALITY.

J

JEALOUSY. The emotion of jealousy arises out of a thwarted desire for affection. The only child, especially if overprotected, is particularly susceptible to the emotion; the first born, too, may feel it on arrival of another baby in the form of sibling rivalry. Frustration in social relations may make the child cling to the person or persons—parents, relatives or friends—from whom he expects care, devotion or love. Mild manifestations of jealousy in a young child (anyway, up to the age of six) are perfectly normal, but more violent outbursts, at the age when he should acquire a degree of independence and yearn for more, call for re-adjustment and may require consultation with a psychologist or pediatrician.

See: OVERPROTECTION, PAMPERING, SIBLING RIVALRY.

JUVENILE DELINQUENCY. Warren's Dictionary of Psychology defines a delinquent as "a criminal or social offender, viewed as a social type (usually limited to minors.)". Delinquency as a phenomenon is frequently studied from both the sociological and the psychological standpoints. The sociologist usually deals with the delinquents as a group within our society; the psychologist, on the other hand, stresses the development of the individual delinquent. Needless to say, no sharp line of demarcation can be drawn between the two; both the sociologist and the psychologist contribute to the understanding of the problem.

Frequent attempts have been made to isolate the causes for delinquency. At first incorrigible children were deemed to be "possessed" by a malevolent spirit. When the writings of Lombroso became popular, delinquency was gen-

erally attributed to the influence of the atavistic "criminal type". The publication of Goring's works exploded the Lombrosian theories, only to give rise to the fallacious assumption that criminals and delinquents are "morons". Studies of "criminal families" like the famous Jukes and the Kallikaks, were undertaken to prove further that delinquency was transmitted by heredity from one generation to another. A re-evaluation of these studies, however, demonstrated that no valid conclusion could be drawn from them. The fact that the rate of delinquency in these families was high, could be attributed to the influence of the environment as well as to heredity. The modern position on what causes delinquency is postulated in the theory of "multiple causation". According to this view, no one single factor is responsible for delinquency. It is generally granted that economic factors, social factors, endocrinological factors, the personality of the individual, as well as his intelligence, all play a determining role in molding the delinquent.

Numerous statistical studies dealing with delinquency have been undertaken. In interpreting the statistical data, however, great caution must be exercised. First, no uniform nomenclature exists. What may be considered as delinquency by one court, or in one state, may be grouped with another type of offense elsewhere. The laws themselves differ from one area to another, and finally the mores of a particular community may influence the statistical composition of the delinquent group. The picture is further complicated by the incompleteness of records, the variable vigilance of the police force at different times, and lastly, its partiality or prejudice in regard to certain social groups. Who should be in-

cluded into the statistical study therefore becomes an all determining question. For example, should a distinction be drawn between mere apprehension, and apprehension and conviction? Furthermore, should one distinguish between sentence to an institution, and probation or a "suspended sentence"? But even in view of these statistical limitations, certain consistently appearing facts come to light. Thus it is generally accepted that the incidence of delinquency is higher among urban than rural population; that offenses concerning property are higher among males, but that sex offenses are higher among females; that native born children of foreign born parents, contribute more to delinquency than either foreign born children, or children born of native stock. Negroes exceed their "quota" in all types of penal institutions. As already indicated, it is very difficult to state why these facts should be as they are. It is not impossible to assume that the higher rate of sexual delinquency among girls may be due not to the actual greater frequency of offenses, but to the existence of a "double standard". An offense of sexual nature may be forgiven to a boy, but be punishable in the case of a girl. Similarly, because of the racial prejudice, a Negro is more likely to be arrested and convicted than a white man. Likewise, minor offenses are more likely to be called to the attention of authorities in a congested urban neighborhood, but go unnoticed in a rural community. Extreme care must therefore be exercised in interpreting delinquency data.

Although it is definitely established that delinquency is more prevalent in the slum or the interstitial areas, as already indicated, poverty as such, or a broken home, are not the only causes for delinquency. At best they are factors, which in combination with still other factors, yield the delinquency syndrome. This is particularly true when the individual delinquent is considered. Just precisely why Johnny should grow into a criminal, and Jimmy develop into a respectable member of the community, cannot be expressed in terms of an exact mathematical formula. It is safe, however, to seek the answer in the very development of the total personality of these boys. Just as in the case

of the delinquent group as a whole, poverty, ignorance and the like are known to play an important role; so in the case of the individual delinquent certain purely ontogenetic factors determine what eventually will become of him. Among the outstanding emotional factors that contribute to delinquency are the feeling of insecurity, inadequacy, general feeling of inferiority, as well as unwholesome attitudes toward oneself, the other members of the family, and faulty ideas. It has been demonstrated, for example, how a child's hatred for his father, may ultimately develop into hatred for any authority, and lead him eventually to become a "cop killer". Petty thefts and minor predelinquent acts during childhood are known to have produced a temporary release of tension, and have thus become habituated. From the psychological standpoint, delinquency may be considered as a symptom; a symptom of a deep seated emotional maladjustment. Although the rich and the privileged children may become delinquent, the happy and adjusted children do not.

The growth of delinquency in a particular child, is often imperceptible. It may commence with such apparently inconsequential signs as nail biting, restlessness, truancy, lying, stubbornness, defiance of parental authority, minor sexual escapades, cruelty to smaller children and animals, and the like. The mere presence of some of these symptoms does not in itself necessarily foreshadow delinquency. The important thing is, that these activities are usually characteristic of the unhappy and the maladjusted child. Given a fertile soil, these germs of delinquency may blossom forth into full fledged criminality.—H.S.

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- See: CHILD DELINQUENCY.

L

LEADERSHIP. A recognition of the nature and function of leadership ability among children is fundamental to understanding their behavior and hence to an intelligent guidance procedure. Leadership is a dynamic force which can be recognized and utilized or ignored and allowed to create problems as it influences other personalities.

There are two aspects of leadership among children that concern the guidance counselor, (1) the guidance of children who seem to have unusual ability in leadership and (2) the utilization of leadership ability among children to influence group behavior and hence help with adjustment problems of children within the group. Both of these aspects of the problem are important and must be considered in treatment of leadership.

Definitions of leadership have been attempted by many writers. In considering a definition that suits here it is important to keep in mind the differences between leadership, popularity and domination. A leader is one who gets others to do things because they want to. A bully is not really a leader because he dominates others. A bully can make others do things, but not because they desire to do them. One can be popular and still not be an outstanding leader, but a leader must have popularity if he is going to exert influence over many people. This is especially true of child leaders because adult factors such as prestige, political influence, economic power do not enter into the background of a leader as much as they do in adult society. A child is a leader by virtue of the number of other persons he can cause to act and think in a given way and the persistency with which he can do it.

Any understanding of leadership must rest on several propositions, to wit:

1. The distribution of leadership ability through the population of children is a continuum rather than a dichotomy. In a given group of children there will be those who seldom, if ever, influence their associates up to the few in the group who persistently do so. This type of distribution is to be expected since leadership ability seems to rest on such traits as intelligence, strength and appearance which are distributed normally through the population.

2. Leadership, to be fully understood, must not be confused with social values. A person is a leader who influences others, regardless of the direction of this influence as measured in social terms. The adult who believes a given child is not a leader because he causes others to do things that get them into trouble is overlooking this basic fact. The confusion of social values in the behavior of leaders is more apt to take place during the later years of childhood and adolescence than earlier, because more of a social interpretation is placed upon behavior then, and those who lead in the direction adults want them to are sponsored by adult society, while those who lead in other directions become the problem children and eventually, perhaps, the delinquents and criminals.

3. Leadership does not necessarily depend upon formal position in the group, but may operate informally and inconspicuously. The real leader of a group of children may not be recognized from casual observation but only after careful and extensive recording of events. Sometimes the quiet, unassuming individual is the one others respect and follow.

4. Leadership is related to specific group situations; it does not act in a vacuum. Whether a given child will be

a leader in a particular group will depend partly upon his own abilities and partly upon how these abilities compare with the group as a whole. In an informal gang one type of leadership will emerge, in a Sunday school class quite another. A child with a high I. Q. may not stand out as a leader among average children in a baseball game, but at school or among those who more nearly approximate his intelligence he may be accepted as a leader.

5. Leadership ability is correlated positively with other traits such as intelligence, strength, skill in activities, and appearance. Studies have shown that children, when allowed to choose their own leaders, will select those above the average of the group in the traits mentioned above, if the group has been together long enough for the members to see each other in action under various conditions.

6. Leadership seems to be learned through experience; it can be acquired by those who have the basic capacity, if they are given the necessary training and guidance. However, our American society does not provide any systematic training to bring out this ability and in many instances organizes the educational experience of children in such a way as to discourage real leadership.

GUIDANCE FOR POTENTIAL LEADERS. Although leadership ability is one of the most precious resources of a democracy, comparatively little is done in the schools of the nation to discover and develop outstanding leaders. The school record systems, for example, are kept in such a way that outstanding scholars are noted and rewarded. There is a premium upon the ability to find the answer in books and give them correctly at a specified time, but there is no systematic way of discovering and encouraging those children who have the ability to get things done and to get others to work happily together. An adequate guidance program must make provision to fill this need.

The characteristics of outstanding leaders have been the subject of investigation for many years. Studies have been made of various age groups, socioeconomic backgrounds and types of activities. The results of these studies are not all in agreement because of

the different methods of classifying leaders and the different types of groups where the studies were made. However, so far as children are concerned it seems quite clear that an outstanding leader in a given group generally is (1) more than of average intelligence in the group, (2) slightly older than the average, (3) superior in the skills which the members of the group use, (4) a member of the group longer and (5) considered by the group to be more attractive than the average.

All children who have these attributes are not leaders. Leadership ability seems to be something that is learned through group experience providing the individual has the basic qualities that are needed. For this reason outstanding leaders are more rare than unusually intelligent children. A leader must come from the upper brackets of intelligence but he must also have other qualities which bright children do not always have.

The first requisite of a guidance program for potential leaders is some adequate method of discovering the personalities that seem to have this quality. This can best be done through a combination of procedures which do the following things: (1) provide ample opportunity for children and adults to observe leaders in action, (2) give children a chance to indicate their choices, (3) provide for ratings by adults who have observed children in these situations.

The studies of groups and leaders have shown that children are remarkably keen in their appraisal of real leadership ability if they have ample opportunity to observe each other in action. The experience of voting for a leader and then participating in some activity under his direction is the best kind of training for young people in a democracy. It gives them at one time the practice of selecting leaders and then observation of the results of this selection. In other words, the way to train leaders and intelligent followers is to provide many situations where real choice is possible and where group and leaders alike can experience the results of their choices.

An adequate program of guidance for potential leaders in a school would call for a record system that would provide for entering at least once a

year some rating on leadership ability. This rating should not rest only on the number of activities engaged in or the number of offices held, but rather on appraisals by students and teachers as to the leadership ability of the individual. Even a rough rating scheme, as asking students to list their first, second, and third choice for leaders would be better than no rating at all and would make it possible to discover the outstanding leaders in each class and follow them through their educational experience.

Any teacher who wishes to use an activity approach in the classroom must utilize the natural leaders and train them to assume responsibility. This calls for some method of identification and some plan for encouraging students who have the basis for leadership but who for some reason have not been encouraged to use this ability. Student committees in the class room will succeed much better if they are organized around the natural leaders. A knowledge of who the leaders are is therefore important to a teacher who wishes to use this method of teaching.

Several writers have pointed to the fact that quite often delinquents or children who have trouble in school or at home are outstanding leaders. That is to say, they have the ability to cause other children to follow them in their escapades and they have an unusual amount of initiative and originality in their planning. Such ability is often not recognized in the school and may be the basis for some of the behavior problems of the child. It is easy to understand how a child with such ability, if it were not recognized and encouraged, would use it in initiating activities adults did not sponsor. Leadership is the type of dynamic force that cannot be completely thwarted. Repressed, it will move out in some unpredictable direction and carry other personalities with it.

The type of training that budding leaders need will depend upon their age, the activity in which the group is engaged and the stage of development the group has reached. Groups, leaders and others must learn how to work under their own initiative and responsibility and it is a mistake to pass on too much freedom or opportunity until children have learned how to

use it. Young leaders need adult counsel and help in working with groups and they need to have friendly advice when things go wrong. This is the process whereby they learn to work with and handle others.

Formal training of leaders through special classes for this purpose is often not very effective, because the leaders are so far removed from the very groups where they stand out. These training courses are especially ineffective if they deal with abstractions about the qualities of a good leader. It would be much more to the point to teach those who are leaders and want to become better leaders definite skills in the activities they are expected to direct. Studies have shown that to be a leader in a given group one must have more than average skill in the activity in which the group is participating. Therefore, one way to become a better leader is to become more skillful in the activity in which the group is interested.

USING LEADERS IN GROUP GUIDANCE. Knowledge of which children are leaders in a group may help an adult counselor considerably in working with behavior problems within the group. This is especially important where the group method of guidance is employed. The group method calls for intelligent management of group situations so that desirable attitudes and behavior patterns come to be accepted by individual members of the group. Intelligent group management is almost impossible unless one utilizes or works through the natural leaders of the group. Once the leaders accept the goals sought after by the adult, their influence can be persistent and constructive, even when the adult is not present. This, of course, is one reason why the activity method of classroom direction can be so effective. The activities of the school can be made to reach into the leisure of the child when the same natural relationships stimulated in the classroom carry on during the play life of the child.

The first task, again, is to identify the leaders using some of the techniques suggested above. Once the leaders have been spotted one can then go about getting them to sponsor the attitudes or behavior that is desired in the group. Talking with adolescent leaders will sometimes work or inviting them to participate in some special

activity and then bringing the others in. Delinquent gangs have been transformed into constructive groups such as Boy Scout Troops by adults who have been skillful enough to secure the active cooperation of the natural leaders.

A guidance program that recognizes and encourages the development of leadership ability will not only make a contribution to the individual adjustment but also to the future of the community and the nation.—E.D.P.

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LEARNING. In general, learning may be thought of as a change in behavior resulting from activity of the organism. Changes in behavior resulting from sheer organic growth such as the growth of organs, nerves or muscles, or from fatigue, or from the development of lesions are not included in this definition. Sometimes a distinction is made between "practice", "training" and other forms of activity. For experimental purposes, it is often helpful to emphasize the definite and planned nature of activity and for this reason the terms "practice" and "training" are used. However, as far as is known, any activity, planned or unplanned, may produce changes. These changes may be of varying degrees, depending upon motivation and other conditions deter-

mining the effectiveness of learning.

To develop further the meaning of learning, it may be helpful to contrast it with "maturation". This contrast is of special importance in a discussion of learning in children. During the early ages, growth proceeds so rapidly that marked changes in behavior may appear, mainly as a result of some organic growth. For example, in certain activities involving manual skill, "length of fingers may affect the ease of performance. The lengthening of the fingers may therefore aid in producing an increase in skill. Ordinary abilities such as the ability to pronounce words or speak sentences, or to perform manual skills appear from present data to be the product of the interaction of maturational changes and learning. In the study of learning, therefore, it is important through the use of comparable control groups to distinguish between those changes in behavior which are the result of the interaction of sheer growth and the conditions of ordinary life, and those changes resulting from some specified learning activity.

Another contrast that may help to clarify the concept of learning is the contrast with "forgetting". In general, learning is used to designate changes acquired through the activity of the organism, while forgetting refers to those changes that fail to persist after a designated time interval.

In the past, discussions of learning and especially experiments in learning often have been restricted to sensorimotor or ideational materials. There is increasing evidence to indicate that changes take place not only in sensorimotor skills and intellectual functions, but also in attitudes, interests, emotional reactions, wants, motives and the like. The promotion of extended experiments of learning in these areas is dependent on the development of adequate measuring instruments in these areas. Some progress in measurements of this type has been made and a number of learning experiments especially in the field of attitudes has appeared within the last ten or fifteen years.

In addition to a serviceable definition of learning, the child guidance worker is interested in such questions as: How early does learning begin? How does child learning differ from adult learn-

ing? How do children learn most effectively?

Present evidence indicates that already at birth the human organism has the capacity to learn. There is also some evidence tending to indicate that learning in the form of simple conditioning may occur before birth. Changes in simple sensori-motor responses have been observed within a few days after birth. Such results were obtained in experiments employing careful control groups, thus ruling out the effect of growth and ordinary unplanned experience.

In a consideration of learning in children it is helpful to consider several factors which make the nature of the child's learning different from that of the adult. One of these factors has already been mentioned, namely the rapid physiological growth. As we have already indicated this growth may give rise to significant changes in behavior making it both difficult and exceedingly important in the analysis of child learning to take account of changes not resulting from learning. Practically, it is impossible to separate the changes produced through growth from those produced by ordinary activity, as the child is at every moment a living and moving as well as a growing organism. The fact that the child is engaged in activity even under ordinary conditions has often not been recognized in experiments designed to test the so-called relative effect of maturation and learning. It has been possible, however, to devise special programs of activity differing from that which takes place under usual or ordinary conditions and then, by appropriate comparisons with a control group, to determine whether the combined effect of the program of activity and growth is different from the changes produced under ordinary conditions of living and growth at that age level.

In addition to a careful recognition of changes due to organic growth, it is also helpful to recognize that the motives which appeal to children may not be the same as those which appeal to adults. Adults may be interested in the end results of the experiment or in the long-time effects while children may be more interested in the immediate rewards and in the type of recognition which is within their range

of interest and understanding. Such rewards may seem trivial to adults but they may nevertheless be important factors. This failure to recognize differences in child and adult motives has often led to negative results in learning experiments in children. Such negative outcomes may be the result of the failure to provide a stimulating motive for the child.

A third factor important in learning experiments with children is that children become fatigued more quickly and usually have a shorter attention span than adults. The importance of recognizing these conditions does not require extended discussions.

Finally, a fourth condition is that the adult may have more background in his form of ideas, skills and the like which he can call on while learning. On the other hand, adults may develop specialized interests which also must be recognized in designing learning experiments and analyzing their results.

This analysis of the nature of the child's learning suggests four conditions which must be specified in planning and predicting the effectiveness of any learning program. These conditions include:

1. The physiological state of the organism at the time learning begins. As we have pointed out, children fatigue much more quickly than adults and a fatigued organism will not respond as it will when recreated.

2. The abilities and skills of the learner at the time the program is administered. A learning program that is effective at one level of ability may not be equally effective at a lower or higher level.

3. The motivation of the organism. There is considerable evidence that the motivation of the learning activity is a most important variable in determining the effectiveness of any learning program. Conditions and rewards which are stimulating to adults may not be and often are not equally appealing to children. The extent to which the child is fully motivated to work at capacity is an important question in any learning program.

4. The nature of the learning program is another variable influencing the effectiveness of practice or training. The importance of this variable is often

overlooked in reporting the results of learning experiments. For example, children may be trained in some motor skill by a method which involves practicing different so-called "elements" of that skill. There is available evidence to show that the practice of the different movements making up a skill is not the same as the performance of those movements in the sequence necessary for the complete performance of the skill. Learning to write by making oval movements and up and down movements is not the same as learning to write by practicing the writing of words and sentences. Other examples of differences in the kind of learning programs could be cited. Spelling can be practiced by writing words as they are dictated or by writing words in sentences. The two learning activities do not appear to be comparable. Practice with ideational material may consist of simple repetition or of analysis and synthesis. Such differences in the nature of a learning program must be recognized in describing and interpreting the results of learning studies. There are two or three additional general questions of interest to the child guidance worker. One of these relates to the relative effectiveness of learning at various age levels. How does age affect learning ability? It is difficult to give a single answer to this question. There is evidence to show that a number of conditions, such as differences in motivation and differences in the nature of materials, influence the form of the curve which expresses the relation between learning ability and chronological age. In general, in simple sensori-motor and ideational learning, under conditions of fairly comparable motivation, it appears that the ability to learn increases during the first two decades of life, then maintains a peak for a decade or two, and then begins a slow decline. This, however, is only a very approximate statement and all the conditions that we have mentioned above may affect this relationship. For the child guidance worker, the important point is that a tremendous amount of learning is possible at all age levels including adulthood and that the factors of motivation, preparation of the organism and the type of learning programs can be manipulated to effect great changes at all age levels.

Another question of interest to the child guidance worker is the form or shape of the learning curve. It has been suggested that the form of the curve best describing progress in learning is either a convex curve, that is a curve showing an initially rapid growth, gradually diminishing in rate, or an S-shaped curve. Upon analysis, it appears that the form of the learning curve depends upon many conditions including, in addition to those mentioned above, the units of measurement employed in plotting the curve. At present there exists no single form of curve describing progress in all types of learning.

A last question relates to sex differences in learning ability. Careful analysis of achievement test data, as obtained under our present school conditions, tends to show a superiority in achievement for girls in such areas as language development and a superiority of boys in science and mechanical areas. The experimental evidence available at present, however, does not indicate clear-cut differences of learning ability when conditions such as motivation, opportunity for practice and adaptation to individual differences are kept constant. It appears that the frequently reported differences in achievement between sexes may reflect differences in learning conditions, especially differences in cultural motivation and opportunity for practice rather than differences in learning capacity.—R.H.O.

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See: CONDITIONING, EDUCATION.

LEFT-HANDEDNESS. See: **HANDEDNESS.**

LEISURE. Leisure has long been a problem for man. For centuries it was a problem of creating an economic system where leisure was available to the mass of people. Now that wide-spread leisure is a reality it is a problem of teaching people how to use that leisure constructively. It is commonly assumed that once leisure is won personal happiness comes as a result. Experience has shown this is not necessarily true. Leisure is not a social or a personal asset unless it is used wisely, and it is usually necessary to learn the constructive use of leisure just as one learns to write, read or operate a typewriter.

An adequate guidance program demands constructive leadership in learning the art of using leisure time. Practically every person in modern America will face this problem sooner or later. Many of the adjustment difficulties of adults grow out of lack of skill in using leisure time. Yet with all the evident need for this guidance recent studies have shown that American youths are ill prepared by existing agencies to use their leisure constructively as measured either on a scale of values or in terms of personal adjustment.

No nation on earth has ever provided as much leisure for the mass of its people as the United States of America. In normal times, if indeed there be such a thing, young people generally have an amazing freedom from productive work. Even when he grows older and becomes a wage earner or professional man, the average American citizen will have more free time at his disposal than any average citizen has ever had before. Not only will he work fewer hours per week, but he will also retire at an earlier age from productive life generally.

This unprecedented distribution of leisure time has not brought with it an unmixed blessing in terms of human happiness and development. Indeed, in some respects there is evidence to support the view that general increase in leisure has been accompanied by more frustration, less personal development, less individual creativeness in the finer things of life. As the amount of leisure

has increased during the past few decades there has been a corresponding increase in commercial recreation. Man has more leisure, but he has also been confronted with an increasing pressure by commercial enterprise seeking to exploit that leisure. The movies, the radio, professional athletics—all spectator pastimes, have increased at an amazing rate. There are 20,000 movie theatres in the country catering to more than 60,000,000 people each week. One half of these people are under 21 years of age. Thirty million radios confront one hundred thirty million people each day. The leisure life of the American people is highly commercialized.

Insofar as the individual is concerned it is of vital importance that he find a pattern of life that uses his leisure constructively. This is especially important in the younger years of life when there is more leisure available and when the patterns of life are in the process of formation.

The extent to which young people need guidance in the use of leisure has been clearly shown in several extensive studies. In the study of New York City youth by McGill and Matthews the following conclusion is reached with regard to the leisure program of nine thousand metropolitan youths studied.

"In spite of all that New York City has to offer, its incomparable cultural advantages, its expanding and improving public relation program—its young people, especially after they leave school, spend their leisure largely in the narrow routine of reading newspapers and magazines, radio listening and going to the movies. The number who have a stimulating out-of-door activity, a creative or constructive leisure occupation and adequate social contacts may seem large until it is compared with the number who do not. Few, compared with the number that should, have any opportunity to engage in sports; few have any other fun or diversion than the movies; almost none have any hobbies or recreational skills with which to fill the unoccupied hours. Few have any organized or group interests. Very few are reached by the character-building organizations, and very few belong to any organization that has the advancement of the common good for an objective. Youth as

a whole has little to do with the arts either as producer or consumer. Almost all the reading done is pastime reading and largely of an inferior kind. Only 19 per cent of the boys and 11 per cent of the girls have a satisfactory leisure, measured from the point of view of a balanced ration."

The need for constructive guidance shown in the above study is not confined to city youth as has been indicated by studies in other parts of the country. A report of the American Youth Commission names the youth in small villages as being in special need of help in this respect. The study of youth in Maryland by the same commission indicated that seven out of every ten young people felt that they were living in communities with inadequate recreational programs.

Leisure time and the problems associated with it are not distributed evenly through the population of young people. The problem changes in nature and intensity as one goes up the age scale through the teens. There are differences, too, as one examines the effects of leisure upon city youth, village youth and rural youth. There is a sharp cleavage between the sexes as one would expect from the different requirements that society places upon boys and girls. It will be well, therefore, to examine briefly the patterns of leisure problems as represented by the different areas of youth population.

CHANGES WITH AGE. Lehman and Witty in their early studies of play activities noted that there was a definite decrease in the number of different play activities engaged in during the week as the children moved upward through the teens. This decrease is no doubt due in part to the settling down on fewer different activities because of finding things one likes, but recent studies would indicate that as youths get older and leave high school the problem of leisure becomes more and more acute. The interval between leaving school and finding gainful employment can be fraught with difficulty if youths have no constructive leisure pursuits and skills. On the basis of the evidence, the schools are not preparing youths adequately in this field. The Regents Inquiry in New York State, for example, found that youths leaving high school dropped most of their

leisure pursuits represented in the high school program as either curricular or extra-curricular shortly after they left school. The reason seemed to be largely that the things learned in school were ill-suited to individual needs after leaving school. The youth who played in a school orchestra put his instrument away upon leaving school because he did not know of any way to carry on this interest outside of school. The football player set aside his equipment and became a spectator unless he happened to go on to college where he could go out for the varsity. This same tendency seemed to be true in many of the areas studied.

RACE AND LEISURE. Those who have studied sociology of leisure pursuits point out that young Negroes are especially handicapped in their pursuit of a balanced leisure program. First of all, most Negro youths are financially handicapped and unable to purchase the many forms of commercial amusement now available. Most important however, is the persistence of discrimination that confronts the Negro wherever he goes. The public recreation facilities are quite often closed to him and his range of choice of leisure pursuits is thereby definitely limited. Similar restrictions exist, but to a lesser extent perhaps, among youths in other racial minority groups.

RURAL YOUTH. Social experience seems to stand out as the great need of rural youth according to the studies that have been made. For thousands and thousands of young people in America there are not adequate opportunities for meeting each other in wholesome leisure pursuits. Lack of such opportunities means either a complete absence of social experience or the wrong kinds of experience in commercialized opportunities. One might imagine that rural youths would make up for the lack of social experience by utilizing the outdoor which is readily available. A recent study, however, has shown that, among youths from 16 to 29, in 40 villages across the country only one half of the boys and one third of the girls took part in outdoor sports, even in summer.

GIRLS. In our particular society the problems of finding constructive leisure activities rests particularly heavy upon girls. This is not due so much to

organic differences between the sexes as to special restrictions placed upon girls by society, without adequate outlets in other directions being provided. Girls spend more time in the home because of home duties, and restrictions on their movement outside of the home limit their choice of activities. The girl is not permitted to seek social contacts with the opposite sex and the kinds of leisure activities available are definitely limited. As girls grow into the teens, they are usually not encouraged to play in the streets, to attend movies alone, to go on hikes in small groups, to play ball or to do countless other things that boys can do without fear of censure. As the school and private agencies do not provide adequate substitute activities, girls must retreat to the home and depend on reading, radio and knitting. Intelligent planning by church, school, neighborhood and community is the most promising possibility for helping girls to meet these needs.

LEISURE FOR LESS-CHANCE. As the survey of leisure activities in New York City Youth has clearly shown, leisure pursuits are closely related to economic status. Youth with limited means cannot participate in commercialized leisure activities as freely as others. Furthermore, their social contacts are circumscribed by poor clothing. Studies show clearly that there are fewer heterosexual contacts as one goes down the economic scale. The disadvantage suffered by youth in poor families increase almost at a geometric ratio as one goes down the income brackets. The lower the income the larger the percentage that must be used for basic essentials. Poor housing means lack of home recreation facilities, parents are usually unskilled in recreational activities and unsympathetic generally to play. It is entirely possible that the frequency of antisocial behavior in lower-income groups can be traced in part to the completely inadequate program of leisure pursuits. Some kind of intelligent community planning and leadership seems to be the only answer at present.

PROVIDING FOR LEISURE. Youth agencies generally and the schools especially are awakening to the opportunity and responsibility in training for constructive use of leisure. Writers in

this field have pointed directly to the schools in suggesting community programs. The American Youth Commission states it this way:

" . . . As a whole, the Educational profession is beginning to throw off its shackles of isolation and formalism and is becoming an important factor in encouraging better and more extensive use of leisure time both among young people and among adults. Schools must assume a fundamental responsibility for the recreation of the future."

The schools are the only agency that reaches practically every child in America. Until they assume the responsibility of training young people for constructive use of leisure time with the same zest that they now train them for college (whether or not they are going there) there will not be an adequate program of leisure guidance. Any adequate program of guidance must include consideration of the leisure requirements of youth in terms of their specific needs as determined by economic status, race, sex, age, neighborhood and community.—E.D.P.

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See: RECREATION.

LYING. According to H. C. Warren's "Dictionary of Psychology," lying consists in "making a statement or assertion which within the knowledge of the individual making it is contrary to fact and which is made with the intent of inducing others to believe the statement to be true." Obviously then, the child does not lie, properly speaking, when he is not aware of falsity contained in his words or when his vivid imagination leads him to exaggerate or modify facts. Nevertheless, parents do not take this always into consideration. We remember, for instance, a very bright girl of five, endowed with remarkably creative imagination, who used to come to her mother and tell marvelous stories of what she supposedly saw and what she sincerely believed to be true; but the mother, without making any effort to comprehend or appreciate her little daughter, scolded her for lying and thus curbed an ability that deserved perhaps cultivation and development.

The question of withholding truth may often amount to lying, though in other instances it may be prompted by prudence, shame, modesty, or tact. The so-called lies of flattery are also difficult to classify, insofar as they may indicate premature cleverness, good will, or childish cunning. Each case must be judged on its merits and demerits and handled accordingly.

Real lying, on the other hand, is, to say the least, a weakness of character. It may be caused by lack of moral courage to face consequences of one's action, by an exaggerated feeling of shame, by a desire for undeserved approval or praise, by vanity and tendency to boast, by wishful thinking of every sort. This kind of lying is commonly formed as a result of parents' wrong attitudes toward the child's upbringing, by their irritability, or by

severe punishments. The danger is that, in the course of time, such a weakness becomes habitual. In these cases, correction of the child's behavior must begin, if possible, with the re-education of his parents.

In many instances, when the child is confident rather than bashful and impertinent rather than modest, his lying cannot be attributed to any weakness. But even here responsibility for the trait may still lie with the parents: it may go back to a period of overprotection and depend on an exaggerated standard of expectation, which the child is unable to live up to. Such a child is often glib and may even plan his falsities in advance; he does not hesitate, for instance, to tell that a fight with a neighbor's boy started because the boy had thrown a stone at him, whereas actually it was the other way around. There are vicious liars in this group, too, who scheme to discredit other children and adults (possibly teachers) whom they happen to dislike or envy.

In addition, there are pathological cases of lying, which include those children who distort truth, deliberately and systematically, without deriving thereby any advantage for themselves; there is strange attraction for them in telling untruth, a passion to lie.

The treatment of the latter cases must be left to a psychiatrist, just as the treatment of children who lie as a result of parents' faults or bad example must be left in the hands of a social worker, psychologist or any other person who is in a position to change the situation. Whenever the problem centers around the child himself, however, it is well to follow Dr. I. S. Wile's rule: "Temptation to lie should be eliminated; over-solicitude and cross-questioning should be avoided; there should be no punishment for truth-telling but a direct personal gain in the parent-child relationship. Parents should be able to hear the truth, if the child is to be enabled to tell it when it carries a trying emotional load for the parents. Deceitfulness should not be permitted to benefit the child and it should be made easy for children not to resort to it in self-defense."—R.B.W.

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logical Liars," *The Nervous Child*, I. 4. Summer, 1942.

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M

MANUAL-MINDED CHILD. Children of similar or identical intelligence may differ widely in the manner and direction in which they express their abilities. Each child evidences its own pattern of traits, aptitudes, and interests. Some children excel in the use of verbal concepts. Others are clever in dealing with people. Still others are adept in the manipulation of mechanical devices and in concrete thinking. The uniform development of all important mental spheres in the same child is rare. A large number of activities and adjustments are studied to get an accurate picture of native endowment. The discrepancies within each individual often yield significant clues to his global personality organization.

Mental tests are useful in the scientific plotting of behavior patterns. Their scores, properly interpreted, furnish objective, though simplified, global profiles of children. They are indispensable in the scientific definition of the manual-minded child. The typical psychometric profile varies with the verbal or practical nature of the test. The manual-minded child may obtain an I. Q. of only 55 on the vocabulary test. His verbal comprehension, reasoning, and generalization may earn him an I. Q. of 78. His I. Q. may rise to 92 in the domain of pictorial analyses and perceptions. On tests of manual planning, ingenuity, and practical resourcefulness his I. Q. may be higher still, possibly above 100. This is only one out of many test patterns pointing in the direction of manual preference in children. It reveals both their outstanding aptitudes and their serious liabilities in the socializing functions of language. Manual-mindedness occurs when the child, owing to special language handicaps, prefers to manifest his intellectual capacities through direct contacts with

the physical environment. His thinking is in terms of things rather than words. It relates to objects and events without the medium of words. Manual-mindedness has many degrees. It is, in most instances, not a specialized talent or aptitude, but an accurate expression of the child's native capacity which is interfered with by more or less severe verbal defect and retardation. The manual-minded child is frequently spoken of as the non-verbalist child. The greater the internal differences are between the lowest verbal ability and the highest manual ability, the greater are the actual and potential adjustment difficulties of the child. A brief generalized picture of the concrete-minded or non-verbal minded child in his salient developmental features follows.

In early infancy the vocal functions may be limited and undifferentiated. Gross bodily activity is preferred. Articulate speech may be delayed despite normal intelligence. Social withdrawal, timidity, temper tantrums are common between the ages of one and three. Speech may continue to develop slowly, becoming intelligible at four years of age or later. Manual preference, either right or left, appears late. Stuttering and speech hesitations of varying degrees of severity and duration may become manifest after three. Strong negative conditioning against pencil-and-paper work of any kind at an early age is not infrequent. Inability to relate experience and to repeat stories is occasionally striking. Avoidance reactions in the presence of strangers may become intensified. Nail-biting, bed-wetting, vomiting, and other protest mechanisms are acquired, if arbitrary and unreasonable corrective measures add emotional injury to the original handicap.

At school the manual-minded child is often the most misunderstood child.

Regardless of intellectual level, he is slow in learning to read, write and spell. He remains ignorant of the more distant facts usually learned in school. After several years of unsuccessful schooling a strong sense of frustration develops which may take a life time to eradicate. The feelings of inadequacy of the concrete-minded child are acquired and are rarely comparable to those of the neurotic, schizoid, and psychopathic child. The non-verbalist test pattern is five to seven times as frequent among juvenile delinquents as is the verbalist pattern. Truancy, dishonesty, and other anti-social offenses are quite common among untreated or inadequately treated children with definite manual preferences and verbal deficiencies. School failures due to inherent manual-mindedness are about ten times as frequent as are those due to feeble-mindedness, epilepsy, and general mental disorganization combined.

In high school academic interests rarely prevail. Essay writing is a most trying job. Grammar and poetry are hateful. Foreign languages cause insuperable difficulties. English is usually the least liked subject. Literary tastes, if any, are limited to comics, detective stories, and cheap murder mysteries. A surprisingly large number of manual-minded persons never read a good book. If interested in current events, they get their daily news over the radio or from other people. The news papers are not read beyond the fattest headlines.

The language development of the manual-minded child has its unique pattern. In untreated and neglected cases the verbal abilities diminish relative to age. They reach their lowest level between the ages of 14 and 17. Thereafter they may rise again. In terms of I. Q.'s obtained from such verbal tests as the Stanford-Binet Scale the longitudinal progression of ratings may be as follows. At the age of three the I. Q. may be 90, at six 85, at ten 76, at thirteen 70, at sixteen 62, at twenty 75, at twenty-five 88. However, early treatment of the language defects by remedial measures, proper home placement, and wholesome emotional motivation may obviate the decline. In fact, spontaneous "cures" and improvements following adequate psych-

ological counseling are not uncommon. The striking increases in I. Q.'s attendant upon such improvement are largely responsible for the layman's notion that the child will grow out of his deficiencies. They are also used as support for the viewpoint that intelligence can be increased in some children by changing their social and cultural environment. The pattern analysis of tests makes the prediction of future increases in I. Q.'s possible. Such changes are usually due to improvements in one or two mental spheres. They do not signify changes in intellectual level.

Most manual-minded children display a number of redeeming features. They are good mathematicians. They are interested in art, particularly drawing and painting. They acquire motor skills easily and enjoy games and sports. They are attracted by extra-curricular duties. Their practical judgments are dependable. They like shopwork and industrial occupations. Preference for technical vocations is unequivocal. The large majority have stable and wholesome personalities, though their social adjustments are rarely perfect. Insanity, instability, and mental disorganization are incompatible with manual efficiency. Their mechanical genius may be as great as is the verbal genius of some of their more successful classmates. Due to the emphasis on verbal achievement the superior child with manual inclinations rarely receives the social recognition which he deserves.

The most appropriate psychological treatment attempts to make the problem child a better rounded personality by eliminating his shortcomings. The outlook for successful treatment of the manual-minded child is probably one of the most encouraging in educational guidance. The degree of improvement may be fully as striking as are the tragedies resulting from neglect and abuse. Several conditions must be fulfilled to insure success. The condition must be diagnosed early, preferably in childhood. Physical and emotional violence in the facilitation of late and imperfect speech must be strictly avoided. Unfavorable comparisons produce early anti-social attitudes. Emphasis on self-competition, patience, encouragement, and firmness bring the desired results in teaching to read and spell. Expert individual treatment is advisable

in extreme cases. While the child's interests are aroused through his manual assets, his verbal liabilities must under no circumstances remain untreated. Administrative measures such as classifications and groupings are rarely effective unless accompanied by systematic treatment of the verbal defects. Shopwork and pre-vocational training are suitable only if they do not lead to the evasion of the child's educational problems. Early manual training and simultaneous neglect of the verbal domain increase the functional discrepancies within the child and render his future adjustment even more difficult. Parents and teachers who tactfully and persistently train the originally manual-minded child to become as proficient in his verbal thinking as he is in manual thinking build up mental integrations, produce good character, develop responsible citizenship, and educate the whole child. The concrete thinker and practical philosopher originates in the ranks of manual-minded children of superior intelligence and normal personalities. To increase his social effectiveness by eliminating his literary handicaps and aversions is to enrich the cultural heritage more than can be done by catering to the exaggerated and uncreative verbalism of many a classroom genius.—J.J.

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MASOCHISM. The perversion known as masochism derives its name from the Austrian novelist, Leopold von Sacher-Masoch (1835-95), who described it in much detail as an abnormal sexual passion in which the individual derives pleasure from torture at the hands of the beloved. Similar phenomena had

been described, however, by many earlier writers, among them Jean-Jacques Rousseau. In fully developed adult masochists, some form of physical pain, commonly whipping, is a prerequisite to sexual satisfaction. Sometimes it is a prelude to normal sex relations. More commonly it takes their place. Many adult sexual masochists visit a prostitute at regular intervals, and each time reenact the same scene, in which the prostitute, following the masochist's explicit instructions, inflicts the precise amount and kind of pain required for the release of the masochist's sexual tension. In other respects, the adult sexual masochist may be perfectly normal and lead a useful, happy life.

The meaning of the term MASOCHISM has been gradually extended, however, to cover any behavior in which the individual appears to court punishment and to enjoy suffering and helplessness. When no sexual elements are present, the term SOCIAL MASOCHISM is often used. From the standpoint of individual happiness and social harmony, social masochism is much more disastrous than the sex perversion. Some students of the problem (though not all) believe that identical mental mechanisms underlie both.

In child guidance, masochism derives its importance from the fact that many children misbehave for the purpose of being punished, especially if the customary form of punishment is spanking or whipping. Often the child repeats again and again precisely those activities for which he is spanked, so that what the parent intended as punishment operates like a reward in the learning situation. Many puzzling behavior problems are created in just this way. Billigs, in a study of nail-biting, cites the case of a boy whose mother tried to break off the habit by slapping him whenever she saw him bite his nails. This continued over a period of years. Finally, the mother gave up in despair, thinking the habit incurable. Shortly thereafter, the boy discontinued the practice of his own accord.

The philosopher Jean-Jacques Rousseau, at the age of eleven or twelve, was whipped by his tutor, Mademoiselle Lambercier, and he found a keen delight in the stimulation of pain, so that

he was eager to receive another whipping from her. Later, as an adult, he tried in devious ways to provoke punishment from ladies he admired.

Even in our times, some schools regularly resort to whipping as a means of discipline. In masochistic children (a more numerous group than most educators suspect), a vicious circle results. The child commits a casual misdemeanor which he might not repeat if it were quietly called to his attention without exciting emphasis. Instead of this, the teacher warns him that he will be whipped if the offense is repeated. Having derived pleasurable excitement from previous whippings, the boy notes the threat as a kind of promise. Later he repeats the act with the definite hope of being whipped for it. There are masochistic children who, if excused for one misdemeanor, will perform a whole series of provocative acts, until the parent or teacher finally gives the desired whipping. The punishing adult is seldom aware that the child's misbehavior represents a more or less conscious striving for "punishment" which has come to satisfy an emotional need.

To many psychologists, masochism has appeared an inexplicable paradox. In some psychological systems, pain and pleasure are assumed to be exact opposites. If one makes this assumption *a priori*, the phenomena of masochism appear as a contradiction. In Titchener's system, however, pleasantness is defined as a simple feeling whose opposite is unpleasantness; pain is defined as a modality of sensation, analogous to vision, audition, etc. Titchener recognized that pain is usually unpleasant but may in certain circumstances be pleasant. He cited as an example of pleasant pain the sting of fresh blows in the sport of boxing. For Titchener's psychological system and others based on it, the paradox of masochism does not exist, and the phenomena of masochism are easily intelligible without special explanation.

Among those to whom the supposed paradox of masochism presented a perpetual challenge was Sigmund Freud. His earliest explanation assumes that masochism is learned through the stimulation of erogenous zones in corporeal punishment. In 1905 he wrote, "An erogenous source of the passive

impulse for cruelty (masochism) is found in the painful irritation of the gluteal region, which is familiar to all educators since the confessions of J. J. Rousseau. This has justly caused them to demand that physical punishment, which is usually directed to this part of the body, be withheld." Freud also suggested at this time that masochism is probably never primary but is derived from sadism through transformation. Later he abandoned this view, but it has been revived and amplified by his pupil, Theodor Reik.

Freud's earliest theories tried to explain all human behavior in terms either of the pleasure principle or the reality principle. According to the pleasure principle, the individual was supposed to act in such a way as to avoid pain and attain pleasure (the two being conceived as opposites). The reality principle involved the postponement of present pleasure or the endurance of present pain, in order to avoid greater pain or attain greater pleasure in the future. Cumulative evidence finally convinced Freud that the pleasure principle and the reality principle were not adequate to account for masochism, sadism, suicide, and various other destructive propensities which seem to run counter to both. At last he postulated a special "death instinct".

Most psychologists, however, including several of Freud's former pupils, are not satisfied that the assumption of a special instinct really constitutes an explanation. If the death instinct, like other instincts, is universal, why should it take the form of masochism in only a few individuals? And if by tracing the masochistic tendencies back to their origins in childhood conditioning we are able to account for certain individual cases without postulating a special death instinct, why postulate the instinct at all?

Karen Horney interprets masochism as "a feeling of intrinsic weakness", . . . "of being in the power of others . . . appearing in a tendency toward over-compliance" She says: "In masochistic fantasies the common denominator is a feeling of being putty in the master's hands, of being devoid of all will, of all power, of being absolutely subjected to another's domination."

Theodor Reik (a student and colleague of Freud, closely associated with

him for about thirty years) has delved into the problem of masochism more deeply than anyone else in our times. His conclusions are almost precisely the opposite to those of Dr. Horney. He finds the typical masochist determined to have his way despite the odds against him. Reik sees the essence and aim of masochism as defiance. By transforming intended punishment into gratification, the masochist shows dramatically the absurdity of all efforts to force him. Reik denies that the pain in itself is a source of pleasure. It is merely the necessary condition of triumph. Reik revives Freud's early suggestion that masochism represents a transformation of sadism. According to Reik, phantasy plays an important role in the transition. The punished child visualizes scenes of vengeance. In an inner drama he plays two roles, the attacker and the attacked, the torturer and the victim. At first he identifies himself chiefly with the active role. Eventually he comes to identify himself more and more with the passive role, and finally he seeks a partner to play the active part. He may even torment the partner into attacking him. In this stage the masochist may be practically indistinguishable from the sadist.

A second essential feature of developed masochism, according to Reik, is its demonstrativeness. Suffering without a spectator (real or imagined) is no more fun for the masochist than for anyone else. A third essential feature is a period of delay, anticipation, and suspense before the culminating stimulation can be enjoyed. The three features (phantasy, demonstrativeness, and delayed triumph) are equally important in sexual masochism and social masochism.

Of the two forms, Reik considers social masochism a much more serious problem. He cites evidence to show that revolutionaries of all times including the Christian martyrs, have been actuated in part by social masochism. The martyrs had no doubt of their ultimate triumph over their tormenters, if not in this world then in the next. They rejoiced in the multitude of spectators who witnessed their sufferings and the impotence of pain to swerve their resolution.

So also the juvenile masochist of the

classroom enjoys witnesses to his fortitude and the powerlessness of punishment to control him. The same child is often easy to influence by a friendly approach.—M.F.M.

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See: SADISM.

MASTURBATION. Masturbation in infancy and childhood is associated with erogenous zones or portions of the skin or mucous membrane in which the stimuli produce a feeling of pleasure of definite quality. The rhythmic character of the stimuli plays a strong part. The adaptability of various parts of the skin and mucous membrane to function as an erogenous zone leads us to believe that the sensation of pleasure depends more on the quality of the stimuli than on the nature of the bodily region. It would appear that the child examines his body and selects any portion of it for pleasure manipulation, and becoming accustomed to it, then prefers it. Should he accidentally strike upon a predestined region such as the breast, nipple or genital, he naturally gives these preference.

The sexual aim of the infantile impulse consists in the production of gratification through the proper excitation of selected erogenous zones. The desire for a repetition of this gratification arises from a previously experienced pleasure. This state of desire for repetition of gratification is associated with a feeling of painful tension and sensitiveness at the erogenous zone which the child attempts to remove by mani-

pulation and turns into a pleasurable feeling.

Infantile masturbation may be divided into three phases:

1. nursing period
2. about the 4th year
3. at puberty

The first and most important activity is the sucking from mother's breast (or its substitute, the bottle) in which the child is acquainted with a pleasurable sensation associated with nourishment. Soon this gratification becomes separated from the desire for nourishment and the lips behave like an erogenous zone. Thumbsucking as a pleasurable activity now makes its appearance. In fact part of the lip itself, the tongue and even the big toe are commonly taken as objects for sucking. Simultaneously there is also a desire to grasp things or other parts of the body and carry on rhythmic activity.

Pleasure sucking has three essential characteristics of an infantile sexual manifestation:

1. It has its origin in conjunction with a bodily function.
2. It does not yet know any sexual object.
3. Its sexual aim is under the control of an erogenous zone.

As the child grows, the anal zone comes to the fore, due to the demands upon the child for cleanliness, and it assumes the role of an erogenous zone. The genital zone holds the same position in the child's life as the other erogenous zones and cannot therefore be considered as the carrier of earliest sexual feelings.

Due to their anatomical position, the overflowing of secretions and the washing and rubbing of the body in cleansing, the suckling becomes aware of the pleasurable feeling which these parts are capable of producing and thus awakens desires for its repetition.

In the second phase, masturbation may occur from a direct demand for onanistic gratification, as a continuation from the earlier phase or as a pollution-like process analogous to the pollution of maturity. If the latter occurs the child may attain its masturbatory gratification without the aid of external manipulation. At this phase both internal and external causes play important and permanent roles in the child's activities.

Although autoeroticity is dominant, other components of the sex life manifest themselves in which objects play an important role. The impulses of cruelty, looking and showing off have to this time remained separate and independent of the erogenous zones. In the early years, due to the absence of shame, the child evinces definite pleasure in displaying its body and especially its sexual organs. Its counterpart, the curiosity to observe the genitals of others, appears in the later years of childhood. The same intense interest may arise from a continuation of earlier genital masturbation and progress to a vivid interest in the genitals of their playmates. These children are zealous spectators, voyeurs, aided by their ability to gratify such curiosity during the gratification of their own excrementary needs and at the voiding of urine and feces of others. While this tendency is soon repressed, the curiosity to see the genitals of others remains dominant.

An early sexual theory of children assumes that all persons have male genitals. Observance of the difference in the sexes by the male child is associated with a denial of what he has seen. He presupposes in all persons genitals like his own and finds it impossible to accept their lack in others. At first he energetically and stubbornly defends his conviction against the evidence of his eyes and only gives in after severe internal struggles which result in the development of castration fears. In the redness of the vestibular mucous membrane of the girl's genitals he sees the evidence of castration, an unhealed wound, a punishment for masturbation. The girl does not react with a denial when she sees the boy's differently formed genitals; she is prepared to recognize it and soon becomes envious of the penis. She regards the smallness of her penis (clitoris) as evidence of mother's lack of love for her or as a castration for misdeeds. She attempts to correct this by seeking more love through nourishment at the breast or bottle. Should this be refused, she begins to manipulate her clitoris in an attempt to make it grow larger so that she can obtain as much pleasure from masturbation as the boy. Her failure causes her to accept the reddened mucous membrane as evidence of an open wound, as a castration for mis-

deeds. This causes her to relinquish her manual manipulations. She may attempt to deny this by imagining herself as having an "Illusory Penis", and replace her previous manual masturbation by rubbing together the thighs, associated with the fantasy, "I can feel my penis. It is growing". The girl's "penis envy" has reached its highest point in the important fulfillment of her wish that she too is a boy. This fantasy may persist into adult life as a neurotic symptom.

The first two phases of the sexual organization are designated as the pre-genital phase; the genital zone has not assumed a dominating role. Pathological developments are only discernible at this time, for normally this period is recognized by mere indications. Pathogenic experiences associated with the forepleasures in infancy are obviously dangerous to the attainment of the normal sexual aim. This is due to too great a pleasure and too little tension in any part of the preparatory part of the sexual process. The latency period with its associated repression of infantile masturbation aids in establishing the primacy of the genital zone by avoiding a fixation to these fore-pleasures and the resultant danger of perversion. During these years the genital zone behaves almost as at the age of maturity, exciting sensations mainly arise in the penis although this effect remains autoerotic. Normally the masturbatory activity of infancy ceases; its persistence at this time is a sign of abnormality.

Puberty brings to the boy a great advance of libido and all of his sexual activities are manifested on the primacy of the genitals. In the girl a new wave of repression occurs which concerns itself especially with clitoris sexuality which sinks into repression. This is greatly aided by the appearance of the menstrual period. In the normal girl this is viewed with pride and gratification. In the abnormal girl it is looked upon as further evidence of castration. This may be reacted to by a denial of her female genitals or an acceptance of her genitals and a denial of the male penis. Masturbatory phantasies commonly appear in the girl as remnants of her unresolved castration and Oedipus complexes. These begin at about the time of puberty and increase in intens-

ity until, with maturity, there comes the possibility of sex satisfaction in reality. These phantasies are:

1. The parthenogenetic phantasy, the essence of which is the desire to produce a child all by herself; this phantasy is associated with overt masturbation.
2. The prostitution phantasy, which is concerned with the desire to give herself to many men without love value.
3. The assault or rape phantasy which, though not common, minimizes the guilt feeling since one is not responsible for what is done by violence.

In the normal girl these unconscious phantasies never cause overt actions and are solved in marriage.

It is evident then that masturbation through autoerotic activity at the erogenous zones of the body is the primitive and universal disposition of the sexual impulse, from which the normal sexual behavior develops in consequence of organic changes and psychic inhibitions in the course of maturity. These erogenous zones become productive of fore-pleasures whereby all the independent sexual acts connected with pleasure and excitement become preparatory acts for the new sexual aim, the voiding of the sexual products, the attainment of which under enormous pleasure puts an end to the sexual feeling. Masturbation is not the cause of abnormalities, it is the infantile expression of fixation at, or regression to, the sexual expression of childhood.

—S.Z.O.

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MATURATION. The origin of a child's behavior goes back to the germ cells through which he is related to his ancestry. This we call heredity. With this as a basis begins the development of human behavior. There are two processes which are involved in the developmental behavior as the child reacts to his environment, commonly referred to as maturation and learning. The process is called learning if the behavior is the result of a stimulus response situation. If the behavior is closely correlated and dependent upon the growth

and development of structure, it is called maturation. Maturation and learning both are taking place simultaneously, and because of the similarity of these processes, they are usually not distinguished as two different processes. Since the opportunity for observable stimulation is limited during the prenatal period, and the developmental changes in the nervous system and structure are extremely inaccessible after birth, maturation was commonly credited exclusively to the earlier period and learning limited to the postnatal period. Through more recent experimental studies, there is conclusive evidence that maturation takes place also after birth and that learning takes place before birth.

A knowledge of the influence of maturation throughout the child's life is important to his guidance. The first item of importance is that learning is dependent upon maturation. Until some unobservable changes take place in the nervous system, learning of certain behavior is impossible. For example: The establishment of bladder and bowel control, to be taught successfully in a reasonable length of time, should not be attempted until the child is mature enough to understand what behavior is called for and his nervous system developed so as to exercise the control demanded.

Parents frequently attempt to teach the child to read as soon as he can talk but are generally unsuccessful because the whole physical bodily structure is too immature to exercise the control necessary and his mental ability too limited to perform the complex process of securing knowledge through abstract symbols.

Teachers and parents often are dismayed when bright children who have been accelerated at school do not fit socially into the advanced group or even fail in their academic subject matter, because they are neither physically nor mentally mature enough to fit in with the advanced group. It would be equally unwise to delay instruction long beyond the time when the body is mature for a particular function. It would be utter folly to delay walking or talking until the child was ten years old. Such maturation of the body does not proceed at a uniform rate, but certain stages of maturation follow in

a rather set order. For example: A child cries before he talks, he sits up before he walks, etc.

Maturation, to function advantageously to the individual, is dependent upon a favorable environment as well as factors inherent in the individual. To result in improvement of skill, development is dependent upon a certain optimal maturity before the organism advantageously responds to growth stimulated by exercise. Maximum growth or development of a function is dependent upon stimulation and exercise of the function at the critical period for such development, which is in turn dependent upon the proper state of maturity of the nervous mechanisms and muscles necessary for that particular act to function. Furthermore, not only a certain maturity is necessary for training in certain skills to be effective, but learning may definitely be interfered with if begun when the organism is too immature to profit from it. In motor development, a child may learn a skill but will need to relearn it as an adult, insofar as structural changes alter bodily proportions.

For learning to take place most effectively, the child should have freedom to exercise any function without restraint or compulsion; and when he has reached the degree of maturity for systematic training of such a function, his chances of rapid, effective, and permanent learning will be good.

Education in terms of maturation alone without exercise would consist in supplying the material to be learned or means for the skills to be developed. Education in the terms of learning alone would mean that age is immaterial to the process. Since both maturation and learning are taking place at the same time, however, teachers must adjust their instruction to the growing child, so as to provide proper exercise of a function as soon as the muscular and nervous systems have matured enough to enable learning to take place most efficaciously. An aged person loses elasticity and can no longer be easily changed by experience. On the other hand, the unborn child is so plastic that, were he not protected by his mother's tissues, he would be so battered by contact with the world that either he would perish or become a misshapen monstrosity. During this

period, maturation is at a maximum and learning at a minimum. Following birth, the maturation continues while learning takes place according to the degree to which the environment is stimulating and the degree of maturity which the child has reached with regard to the particular function to be learned.—M.L.S.

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See: LEARNING.

MATHEMATICAL THINKING. A. STAGES IN THE DEVELOPMENT OF MATHEMATICAL THINKING:

1. The inception of generalization: In order to understand that $3+4=7$ one must be able to recognize the calculation as correct whether it concerns apples or pears, fruits or vegetables, things or people. One must be able to generalize, in eliminating the specific characteristic from the given example. This ability to generalize is an abstract quality of thinking, and on this account seems very sophisticated. In reality, it is the first characteristic of mathematical thinking which the child develops.

M. von Kuenburg (1) showed that children are able to abstract the form or the color of an object after the 4th year. If one asks a child to find in a second picture images which resemble those in a picture which he has already seen, he will recognize the similarity between two triangles even though one is red and the other green. He will see the similarity between the blue objects, even though one is a square and the other a hexagon. He has succeeded in forming the concept of a triangle and the concept of "blue". The utiliza-

tion of general concepts is characteristic of the child's thinking, a fact which was demonstrated by K. Buehler (2). In view of this it should not be too surprising that such general concepts as those of triangle or "blue" can be employed by the child at such an early age. The child's mental world consists entirely of very general concepts and concrete things. All stages in the conceptual hierarchy between these two extremes are absent.

Nevertheless, it is interesting to notice that the age of attaining general concepts is even younger than von Kuenburg described it. We find that it is not that children under 4 are unable to abstract or to generalize, but that they are merely unable to verbalize the procedure and to understand verbal questions. L. Welch (3) was the first to develop behavioristic experiments to study generalization in young children. Instead of questioning the child he gave him a set of appropriate stimuli; instead of expecting a verbal response he noted the child's behavior when presented a situation which involved choice. By this method he was able to prove that the inception of the ability to generalize occurred as early as the 20th month.

The first step of development which participates in the evolution of mathematical thinking is therefore the ability to generalize or to abstract, an ability which is usually acquired in the second year.

2. Experimental geometry: Mathematical thinking has one very obvious quality; that is a preoccupation with size. Size also is a concept which the child acquires very early, if one considers its very beginnings. Ch. Buehler (4) stated that the child's ability for placing hollow cubes one within the other proves that he has a certain concept of comparison of the size of objects. The child over one has learned to use constructive toys in this way. His concept of size, however, is still very vague. It is appreciated only in terms of "larger" and "smaller." The child is not yet capable of thinking in terms of a continuous order, for instance, numerical. If one gives a child of this age two sticks, one of which is longer than the other, he will use the longer stick if it is necessary in order to bring the object nearer

to him. If, however, neither of the sticks is long enough and one gives him two sticks with which he can make one long one by attaching the two together, he will be unable immediately to arrive at a solution of the problem as it is based on an understanding of numbers which he does not yet have. Only by experimenting will he be able to resolve the task. A. Rey (5) in a book on Practical Intelligence showed that the solution of a problem which requires the concept of multiplicity is learned between 3 and 6. In setting up experiments based on manipulation of objects he found that the child learned that three canes are longer than two, and two than one; that five stones are heavier than four, and four than three; that one fastens an object more securely with two strings than with one, etc.

The second step in the evolution of mathematical thinking is, therefore, the acquisition of the concept of size by experimentation.

3. The pleasure of calculating: This concept of size, however, acquired by experimentation does not in itself make calculation possible. The numerical order which the child learned by action needs still to be assimilated through this thinking. He has not reached that point where he can free himself from the concrete attributes of his activity.

At age 6 or 7 the picture changes. Ch. Buehler (4) found that the child of this age feels a special pleasure in exercising his thinking. This pleasure can be understood as the natural reaction to practising a new skill. Returning to the example of $3+4=7$, we see that the appreciation of the operation requires more than an ability to generalize and to handle the concept of size. This generalization and this awareness of the concept of size need to receive an absolute quality. This comes through the establishment of the system of cardinal numbers and through learning the four elementary operations of this system, addition, subtraction, multiplication and division. One must be able to say "therefore" without having to return each time to an actual perception. $4+3=7$, therefore $7-3=4$. This combination of operations, elementary as it seems to us, is one of the most decisive steps in the development of mathematical thinking. Piaget (6)

called it the understanding of the reversibility of thinking.

Before this stage is reached the child's thinking is irreversible. One gives him 20 wooden beads telling him they are all of wood. Four of these are white and sixteen are brown. When one asks the child if there are more brown beads or more wooden beads, the child answers that there are more brown ones, saying that there are sixteen brown ones and only four wooden ones. In order to visualize the concept of brown beads, the child divided up all the beads into two groups. Then in order to see all of them when he wished to consider the number of wooden beads, he had to reverse the operation of division. This he was unable to do. The wooden beads therefore became identical for him with the beads which remained after the brown ones had been taken away, that is, with the white beads.

Reversibility, therefore, represents the third step in the development of mathematical thinking. It occurs between the 6-th and 8-th year.

4. Memorization of the multiplication table: The faculty to calculate rests not only on characteristics of thinking itself, but also on the ability to apply this thinking rapidly and accurately. Memorization of numerical tables is, therefore, not extraneous to the development of mathematical thinking. Ch. Buehler (4) considers the years between 10 and 12 as those best suited for rote memory. This observation was verified by the work of Brunswick (7) and his students. At this age mathematical thinking becomes automatized to a certain extent and this automatization of calculating by rote memory represents the fourth step in the development of mathematical thinking.

5. Understanding the equation: Up to this moment we have spoken only of arithmetic, that is, the execution of certain reversible thought operations which utilize numerical data. These operations, however, do not represent all of mathematics. On the contrary, the specific point of mathematical thinking which distinguishes it from non-mathematical thinking has not yet been touched upon. One can work with sizes, and the system of cardinal numbers can be assimilated without one having understood the central concept of math-

ematics, that of numerical equality. The concept of equality is one which belongs to the conceptual system of mathematics and not to operational thinking. It is this special feature in this system which distinguishes it from every other conceptual system. In order to recognize this characteristic one must divorce oneself from thinking along the lines of personal experience, and from an operational attitude, and consider only the specific form of the system with which one works. This changing of the focus from the specific arithmetical operation to the mathematical system represents a complete formalization. In the formalization one sees the difference between logic and mathematics. As long as one has only to do with a thought process, there is but one thought, be it in logic or in mathematics. When thinking reaches the system of mathematics or logic, the difference between these systems becomes clear. Logic rests on the concept of inclusion, while mathematics rests on numerical equality.

The formalization of logic consists, therefore, in the understanding of inclusion. It is not necessary to understand the empirical sense of the premises in order to draw certain conclusions. One may derive conclusions from statements involving invented words. If, for example, the "fesos" (an invented word) include the "daros" (also an invented word) and live in water, it is self-evident that the "daros" live in water. Every statement referring to the "fesos" refers equally to the "daros" yet only some statements referring to the "daros" will apply to all "fesos". All "daros" are "fesos" but not all "fesos" are "daros", as all parrots are birds but not all birds are parrots. According to Ormian (8), children between 12 and 14 are able to arrive at this kind of formal conclusion. Before this age they cannot draw any conclusions except on the basis of their own personal experiences. If one tells them, for example, that carnivorous animals eat meat and that wolves are carnivorous, they conclude that wolves eat meat. If however, one then asks how they know this, they say, "because the wolf ate Little Red Riding-hood." They cannot draw any conclusions about the "daros". They say that they have never met these animals. Some

children may go so far as to suggest that "daros" are probably fish.

In mathematics numerical equality replaces inclusion. If $x=y$ and $y=a$, then $x=a$. Each statement concerning x will also refer to y and each statement concerning y will refer to x .

In order to be able to calculate, the child does not need to understand this relationship. In doing arithmetic and even in reversing arithmetical operations in order to prove the problem the child is concerned only with operations which he himself has performed. After having added 4 he takes away 4 and he can see that he has come back to his starting point. In knowing what he first did, he knows what he is to do next. In other words the steps of his mathematical reasoning are determined by certain operations which he has already done himself.

The resolution of equations presents a different problem. Here one finds a preformed structure. One's personal experience has no bearing on the modification of this structure. These modifications are seen to be correct or incorrect only when viewed in relation to the structure of the equation itself. The structure of the equation is based on numerical equality.

Understanding the equation is therefore made possible by the same liberation from personal experience which the child demonstrated when he became able to resolve the problem of the "fesos". Due to the child's ability at this developmental level, when he is able to understand equations, he is able to understand the meaning of constant and variable factors which is essential for his comprehension of equations. Cardinal numbers like the wolf and Little Red Riding-hood play a part in the child's personal experience. He has two legs, ten fingers, he was given a dozen lead soldiers, he will have a birthday in twenty six days. The a 's and the x 's like the "fesos" and the "daros" are symbols without personal or historic meaning for him. They are symbols which acquire meaning only because of having a place in an objective system. In mathematics this objective system consists of equations.

It is therefore correct to say that the understanding of the equation represents a fifth step in the evolution of mathematical thinking. This occurs be-

tween 12 and 14.

6. Mathematical talent: Up to a certain point every person with normal intelligence goes through these five steps in the development of thinking. There are people, however, who are especially gifted in mathematics and others, quite intelligent in all other ways, who are virtually idiots in this field. Leaving aside emotional influences which, of course, play a role in the development of mathematical thinking just as they affect the maturation of thinking in general, we must ask whether there are other factors responsible for this variation. The question can probably be answered better by an illustration than by a purely theoretical discussion.

In a well known magazine we found the following problem. "A father said to his son, 'I am twice your age and this difference will increase so that when you are my age I shall be three times as old as you are now.' How old is the father and how old is the son?" In the next issue of this magazine the solution was published. The son was 20 and the father was 40. Evidently neither the magazine editor nor the person who contributed the problem were gifted in mathematics. They had not realized that their answer represented only one of an infinite number of answers. The son could as well be 18, 18 years and 6 months, 31 years, 2 months and 4 days. The father 36, 37, or 62 years, 4 months and 8 days, etc. The second part of the problem, "when you will be my age I shall be three times as old as you are now" ($x+y=3y$ hence $x=2y$) is identical to the first part, "I am twice as old as you" ($x=2y$). One cannot transform the problem into two independent equations which one would need to do in order to solve a problem with two variables.

A mathematician, as opposed to a non-mathematician, will notice immediately the mathematical structure of a problem. He quickly organizes the supplied data in terms of known and unknown quantities and deduces from the relation between the known and the unknown whether or not the problem can be solved. In other words, he sees the problem as if it were a dictionary. He sees the unknowns at the left, and the knowns at the right. He is able to see if the right hand side corresponds

to the left hand side, if the strange vocabulary can be cancelled out, if a translation can be made. This ability to visualize a problem in terms of equations is due to a mathematical sense. Only a person gifted in mathematics is able to know when hearing a problem whether and in what way it can be solved. All word problems are mathematical problems wherein this specific understanding plays an important role. Without this special understanding the solution of word problems can only be performed by the routine application of specific methods. The child has learned that he must utilize a certain kind of equation to resolve a certain kind of word problems dealing, for instance, with time, speed or distance.

It is important to emphasize the fact that the development of the understanding enabling the individual to recognize the solubility of word problems is not a function of his age, but a result of a specific way of viewing the world, which is usually called a mathematical talent. Therefore, we cannot say that there actually is a sixth step in the development of mathematical thinking, but we must state that mathematical reasoning attains its maximum development only in a few people.

B. PEDAGOGICAL CONCLUSIONS. This picture of development permits us to deduce a few pedagogical conclusions. Teaching mathematics must be done according to the pupil's developmental level.

1. Between the ages of 3 and 6, that is, in the pre-school and kindergarten, teaching must encourage the child's tendency towards experimental geometry. This is done by giving him numerical problems which he can solve in action. He is asked to remove something from a bottle with one, two or three hooks. He is taught that he can keep a piece of paper from blowing away by placing on it a certain number of stones. He is instructed to bring a candy within his reach by attaching a certain number of sticks to each other to span the distance, etc. These tasks familiarize the child with numbers in a way which is understandable to him and he is therefore enabled to assimilate the meaning of numbers. There is no point in expecting a child of this age to understand numbers in

any other way. One cannot give a child of this age numerical problems which are solved merely by thinking. Even replacing the abstract numbers by concrete objects such as by a quantity of apples, domino blocks or candies does not eliminate the basic difficulty which lies, not in his inability to generalize, but in his inability to think apart from action, which prevents him at this age from being able to calculate in the real sense of the word.

2. Between 6 and 10 arithmetic in its real sense can and must be taught. It is at this age that the child's thinking emancipates itself from his actions and one must give him an opportunity to develop this intellectual ability. Properly done, teaching of arithmetic at this age is not only not a strain on the child but is actually a pleasure. One must limit oneself, however, to teaching small calculations and to explaining in a simple manner the relations between the four arithmetic operations. One establishes in this way in the child a certain familiarity with the cardinal numbers and with arithmetic. One must not expect that at this age arithmetic can be done rapidly or automatically. It is by mental effort and not by skill that the child between 6 and 10 masters calculation.

3. Memorization of the multiplication table must be reserved for the age between 10 and 12. At this age spontaneous thinking is in abeyance. One can make positive use of this latent phase in productive thinking by teaching at this time reproductive material which, if presented so as to interfere with the maturation of productive thinking would evoke boredom and resistance to learning.

4. The development of productive thinking again makes strides between the age of 12 and 14. This is the appropriate time to introduce equations with constants and variables. In view of the fact that in so doing one takes advantage of a real development of thinking, it is unwise to go against the current by teaching the new material in a mechanical way. In introducing constants and variables one must make it evident that one is presenting a completely new task. Equations should not be introduced as if evolved naturally from arithmetic. The concept of numerical equality is the basis for their

understanding. The more clearly one shows this to the child, the more accurately will he be able to grasp and use new concepts and methods. Furthermore, he will do so much more willingly. In arriving at this point the child has attained a new stage of development. If one recognizes it and makes him aware of it also in the manner in which one teaches mathematics, he will say "yes" to mathematics as readily as he says "yes" to his mental development.

5. The solution of word problems is dependent on mathematical talent. One must realize that an ability or inability to handle them has no direct correlation with the I. Q. The difficulties which these problems always present during the course of teaching mathematics simply cannot be eliminated. There are only two ways of reducing these difficulties. One consists in completely avoiding the obstacle, that is, this type of problem. The other consists in approaching the solution of these problems indirectly. The first would involve excusing pupils who are not mathematically gifted from word problems, telling oneself that teaching mathematics is a formal training of thinking and is not intended to produce a mathematical world for the child. This conclusion will be rejected by some teachers. They will argue that the translation of word problems into mathematical terms constitutes one of the primary aims of mathematical teaching. If one believes this and therefore finds it important to teach all children word problems, one can do so only by taking into consideration the difficulties which they represent. The instructor must frankly admit to the pupils the existence of these difficulties and show this admission in the way in which he teaches the handling of these problems. He must use the same tricks which are used by intelligent pupils who are not gifted in mathematics. He must organize the different kinds of word problems according to the specific techniques for solving them. By explaining why a certain kind of word problems is solved in a certain way, he develops a routine method for handling word problems, which is understandable for the child at least when it is applied to the individual problem. This method will not

generate mathematical talent in all intelligent people, but it will enable every intelligent person to solve some problems which otherwise would require a specific ability.—K.M.W.

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MEANING. Children's speech seems to begin with sentence-words (holophrases), or words that are really equivalent to sentences. When a child says "mama" and accompanies his utterance with gestures and proper intonation, he is easily understood, under conditions of a concrete and immediate situation. The significance of the exclamation varies, of course, from situation to situation, simply because it acquires its meaning, not only from the vocal sound but also, and mainly, from the perceptual context. According to G. de Laguna, the child's sentence-word differs in two important respects from the utterance of the adult, namely, it is capable to function without the aid of supplementary words and it has no clear meaning apart from the particular context. These two features, she says, go together. "It is precisely because the words of the child are so indefinite in meaning, that they can serve such a variety of uses; and it is also—although this sounds paradoxical—for the same reason, that they are fit to function as complete rudimentary sentences. A child's word does not designate an object or a property or an act; rather

it signifies loosely and vaguely the object together with its interesting properties and the acts with which it is commonly associated in the life of the child. The emphasis may be now on one, now on another, of these aspects, according to the exigencies of the occasion on which it is used. Just because the terms of the child's language are themselves so indefinite, it is left to the particular setting and context to determine the specific meaning for each occasion. In order to understand what the baby is saying you must see what the baby is doing. The simple sentence-word is a complete proclamation or command or question, because the speech in which it occurs is so closely bound up with the attitude of response to his immediate surroundings."

As the child grows, he learns to speak of things and persons that are not within the field of immediate experience; he develops memory and imagination, permitting him to refer to what is no longer there and what is merely anticipated, desired, thought of. A further acquaintance with language provides him with a growing number of classificatory terms, attributes, abstractions. He gradually abandons the use of sentence-words and learns to speak in the manner prescribed by his culture. As a result, the development of his speaking ability is closely paralleled by the growth of the number of words per sentence. In the light of M. E. Smith's investigation, the amount of words per average sentence is:

At the age of 2	1.7 per sentence
At the age of 3	3.3 per sentence
At the age of 4	4.3 per sentence
At the age of 5	4.6 per sentence

In the development of the child, words change their meaning by being gradually dissociated from perceptual contexts. A single word, originally descriptive of a total situation, is transformed into a sentence. And sentences themselves begin to refer not only to immediate situations, but also to past experiences, anticipated occurrences and, in the course of time, more or less abstract thoughts and opinions.

Words and sentences, then, are used by the child in adjustment to a social situation as determined by culture. They do not contain but rather express meanings. The complete description of any meaning, as expressed in effective

communication, presupposes the child's state of mind; mental reference to some object, act or situation (real or imaginary); the proper use of symbols (words and sentences); and a more or less adequate skill in arousing a corresponding state in another person's mind. Any discrepancy among these four elements of communication is likely to create misunderstanding.—R.B.W.

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MENTAL AGE. The concept of mental age apparently had its origins in A. Binet's thinking and work shortly after 1900. During this time Binet set up scales, the first of which he put out in 1905. This scale consisted of a series of tests or problem situations of widely differing degrees of difficulty. These tests were arranged in order from the easiest to the most difficult. While Binet's earliest tests were not classified according to years, he did indicate what the average child at particular ages might be expected to do. This idea was elaborated in the Binet-Simon Scale of 1908 in which each test is listed under the age at which the average child or about fifty per cent of all children at that age could do the set task or problem successfully.

The mental age has been described as the "level of development in intelligence expressed in terms of the age at which the average child attains that level" (English, H. B. *A STUDENT'S DICTIONARY OF PSYCHOLOGICAL TERMS*, p. 78.) For example, if a child has a mental age of ten years six months, it means that he is able to perform mental tasks about as well as the average child who is midway between his tenth and eleventh birthdays. The child in question may be little or much older or younger chronologically depending upon his rate of development.

The mental age does not itself in-

dicate brightness, dullness, or intelligence, but is intended to indicate merely level of maturity. Also, the concept of mental age is of very questionable value above a mental age level of approximately thirteen years, since "the magnitude of the mental age unit shrinks as mental maturity is approached, just as annual increments in height decrease as the child approaches physical maturity," as Terman and Merrill point out.

The mental age of a child has been used primarily for two purposes: (1) To obtain with the chronological age a measure of brightness commonly called intelligence quotient or I. Q. (Formula is: I. Q. equals (M. A./C.A.) 100), and (2) for classification of school children. The chief objections to the latter use have been that (1) it does not take into account the social and emotional development, (2) all children do not enter school at the same mental age, and (3) even if children did start a grade with the same mental age, the younger members of the class should soon have higher mental ages than the older members whose rate of development is slower.—R.H.S.

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MENTAL DEFICIENCY. The term is used in this country as more or less synonymous with feeble-mindedness, mental subnormality and amentia, though the latter term should properly apply only to the lower forms of mental deficiency, while 'feeble-mindedness' applies, in the British usage of the word, only to the higher forms. The classification of mental defectives—numbering about 1% of the population—follows mainly the lines indicated by the results of intelligence tests and includes morons (I. Q. 50-70), imbeciles (I. Q. 20-50) and idiots (I. Q. below 20). All these categories consist of cases which present on the whole normal appearance and also of those which are distinguished by definite deviations from the normal (about 10% of all cases). Among the latter we find cretins, mongolian idiots, microcephalics, and hydrocephalics. Tainted heredity is probable

in most cases of mental deficiency (some authorities place it as high as 90%). However, mental deficiency connected with birth injury, hydrocephaly, epilepsy, and syphilis must be regarded as acquired as a rule congenitally or after birth. In some cases of blindness and deafness, the child's mind is fundamentally normal, though he behaves for all practical purposes as feeble-minded.

The hereditary derivation of mental deficiency does not mean, of course, that nothing can be done about it. Medical treatment is clearly advisable in many cases. In cretinism, for instance, the deterioration of intelligence can be arrested by administration of thyroxin. Moreover, it is generally acknowledged that the degree of mental deficiency is affected by circumstances of health, experience and environment; that is to say, the child may, under proper care and guidance, become a less serious case or escape altogether from being classified as feeble-minded. This becomes particularly clear when mental deficiency is judged by other standards than intelligence quotient. In fact, under favorable conditions, high grade morons may grow to become reasonably successful citizens, capable of earning decent livelihood and competing on 'practically equal basis with average people. It is true, of course, they cannot be successful in scholastic career and are unlikely to be highschool graduates, to say nothing of colleges; nevertheless, they can often be trained in manual and industrial skills, such as garden work, housework, painting, carpentering, laundering, packing, and operation of simpler machines.

Whereas some morons can sometimes be successfully fitted into community life, it must be said that idiots and imbeciles as well as many morons should be placed, as early as possible, into institutions. Though parents as a rule are reluctant to accept the diagnosis of their children's mental deficiency, they should realize that such children are better off away from home and will receive a much better care and training in institutions.

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MENTAL HYGIENE (IN THE PRE-SCHOOL PERIOD). Mental hygiene in preschool period falls generally under two classifications, (1) adequate habit training in the field of emotions and (2) prevention of such asocial reactions as unnecessary fears, temper tantrums, contrariness, and the like.

Fears in early childhood have been treated too fully to require much space here. On a basis of not more than two specific or perhaps one general fear present at birth, education sets up (1) necessary caution in regard to dangerous situations and (2) plans the child's environment in such a way that he is protected from the development of foolish fears and provides technique for the development of a general sense of security. Watson cites two basic fears, fear of falling and of loud noises. Our own point of view is that there is a single general stimulus to fear, namely loss of security, physical or otherwise. The child can not see clearly in the first few weeks of life in as much as the eyes do not focus, and shocks of a sensory character other than loud noises would probably be the only shock phenomena to which the infant would be subjected. It is generally agreed that anger has for its stimulus any interference with action or purpose. It is our belief that fear has an equally general stimulus, namely, the loss of security for any reason whatsoever. An observer has only to record the reactions of a child held by an adult who is himself insecure to give added support to this belief.

Beginning immediately after birth and possibly during the birth process the infant may be conditioned to attach fear to any specific object or situation which produces loss of security. The methods by which these attach-

ments are made are relatively simple.

Fear appears to have a definite pattern of reflexes all concerned with visceral control. To quote from "Psychology of Infancy and Early Childhood": "In fear and anger states the bodily changes appear to be as follows: Impulses proceed to the adrenal gland, causing a discharge of adrenalin into the blood. This substance acts on the muscles to increase their excitability to nerve impulses. It acts on the liver to produce a discharge of glycogen or blood sugar into the blood. The glycogen is carried by the blood stream to the skeletal muscles, and provides additional food for them. The additional food and the heightening of excitability insure greater rapidity of movement, greater muscular strength, and lessened fatigability. A substance is produced in the blood which makes it clot more readily. At the same time that these changes are going on, there is an increase in the rate of the heart and in the number of respirations per minute, and the blood pressure is increased. The adrenalin acts on the lungs to cause greater expansion of the arterioles. These changes insure the rapid oxidation of the blood. The visceral arteries in the abdomen contract and force the blood to the skeletal muscles. Changes also occur in the digestive tract. There is a cessation of secretion in the salivary glands, and in the glands of the stomach and in the intestines. The churning movements of the stomach and the peristaltic movements in the intestines also stop."

These movements occur as an integrated pattern which may be attached as a whole to any situation or set of situations in the following ways: (a) by direct conditioning, (b) by imitation, (c) by verbal conditioning, (d) by direct or indirect transference. By direct conditioning we mean that the child loses his sense of security in connection with an object or a situation, for example, being thrown up in the air by his male parent and thereafter fearing men; having a loud sound present without preparation which would enable the child to feel secure in regard to it, and so on. An illustration may serve to make this method clear: "An infant, aged six months, who was getting his food from a bottle, suddenly showed fear of the bottle and the feeding

situation. We were able to find out that the fear had begun that day when the mother, immediately after she put the bottle into the child's mouth, knocked the double boiler, in which the food had been prepared, off the table with a loud smash. The baby pushed his bottle away and refused to eat until an entirely different type of bottle had been secured."

Many fears are started by imitation. The child sees some adult or some other child in whom he has confidence show a sense of insecurity in the presence of an object or a situation; as a result he himself begins to show similar signs of insecurity always accomplished by the above listed set of physical changes. Like other conditioned reflexes of a more or less complicated pattern, these physical changes may be attached to any situation. The child may become afraid of milk, ice cream, candy, the movies, toys and other stimuli ordinarily reacted to in a highly positive manner. An illustration may serve to clear this point. The door bell rang, the mother of a three year old child looked out of a window and saw on the doorstep an umbrella mender. She leaned out of the window and said, "I heard you were dead, is this your ghost?"—probably in an attempt to be humorous. The child heard her and began to scream, for which he was spanked soundly. Thereafter the sight of the umbrella man caused screams.

The father of a four year old at the table described the macaroni, with pretended horror, as white worms in milk. Macaroni thereafter produced crying and regurgitation when served to the child. This is an illustration not only of imitation but also of verbal conditioning.

Verbal conditioning may occur (a) in connection with attempt to control the child as for example: "If you don't go to sleep at once a big black man will grab you"; (b) in connection with stories. Descriptions of wrecks at sea, children drowning, lightning striking people and "blowing them to pieces", bombing raids are all examples of verbal conditioning; (c) careless conversation before the child is also responsible for a number of fears. At the time at which a nine year old child was discharged from the hospital after being treated for a broken ankle, now

situations. If one says to the child who is angry "A big nursery school boy does not get upset at a silly thing like that", or more specifically when he falls down and bumps his knee, we say "Hurrah for Bobby Bumble, He doesn't mind a tumble, but up he jumps and rubs his bumps and doesn't even grumble," the child will shortly cease to be angry in these situations. On the other hand, if one says "Big nursery school boys are angry when people snatch their toys or when people knock them down," anger then goes off normally under the above conditions. The adult's reaction alone is enough to set the pattern of anger or non-anger, if it is consistent.

Anger has a definite teleological value. During anger states the individual generates a high degree of energy and this energy may be directed into constructive channels, provided that the oversupply does not reach the level of complete lack of control. In fear this would mean fainting. In anger this means complete lack of ideation while the energy is draining off into higher and higher levels of fury. In young children this is evidenced in the temper tantrum; in older individuals it is evidenced in similar temper tantrums: in fact, the responses differ slightly from birth to death. Anger sufficiently under control to be directed into constructive channels may make the individual conquer obstacles hitherto insuperable. It may lead to the resistance of an asocial activity suggested by less well adjusted individuals when resistance to group pressure might otherwise be impossible. In fact, the individual without anger at the proper points is far more pathological and less well adjusted than is the individual with an oversupply of undirected anger leading to occasional temper tantrums. An individual without resistance may be forced into any type of behavior by pressure from good, poor or even seriously maladjusted individuals. He can not overcome difficulties or obstacles, because he can not generate the necessary energy. We have all met at least one individual who takes his opinion from anyone with whom he happens to talk. One can easily determine the latest person with whom he has had contact by the opinions which he professes to hold.

To summarize: the preschool period should be given over to arranging the child's environment in such a way as to avoid unnecessary fears and to give him techniques with which he can take over unusual or shock situations either by meeting them alone or by acting with others. Each experience met adequately makes for a more mature emotional development.

Moreover, this training should take the form of controlling the degree to which anger appears so that the emotion does not take full control of the ideational processes. It goes without saying that marked defense or escape mechanism should not be allowed to become natural. A child who fails to meet life by adjusting to reality and instead seeks his satisfaction in day dreams is already developing a behavior pattern which may affect adversely his adjustment at adolescence. A child who defends himself by making excuses and refuses to see that he had made mistakes or pretends that the mistakes are not really errors but are activities which he planned to carry on, is failing to face reality in every instance in which these mechanisms occur. If a child who is afraid says "I am not afraid at all, I am just looking funny to make you laugh" he should be helped to face his fear and shown how to meet it. If it is a fear of dogs one should say, "We keep away from strange dogs. We pet and play with our own dogs. Strange dogs do not know us. Our own dog does and likes to play with us" (if it does not, it should not be in the household with a child). A child who instead of defending himself sits down and says "When I get big I will bite his ears or when I get home I will shoot him" should be helped to feel more courageous and able to say: "We fight now. We may not win but we fight. We do not run away and then talk about it."

All of this training requires patience and time as well as knowledge of the emotional states and how these should be met; a parent who has been sufficiently educated in the field of child psychology and general child development should be able to develop the necessary techniques. Needless to say, all teachers should have these as a part of their technical training.

In the field of the third emotion,

love, the training takes the form of (1) making the child feel that he has a secure place in the affection of the people with whom he is surrounded and (2) helping him to go through the period of emotional weaning which will give him an interest in the people outside of himself and also spread his affection from his mother to his playmates and to other women. At the end of the first period of early childhood between eight and nine the boy should be helped to transfer the major place in his affection to his father. Between the ages of four and six girls should be helped to make this same transfer. Adequate social weaning which frees the child from too deep attachment to home and parents is a part of the function of both parents and of the school.—A.H.A.

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See: FEAR.

MENTAL TEST PATTERNS. Characteristic combinations and permutations of many traits and abilities differentiate one child from another. Personality is the organization and mutual relation of mental functions and features. The child's personality, though infinitely complex, is indivisible. Whether at home or in school or in the test laboratory the child responds as a whole. Each test response is the function of the entire child.

Intelligence, emotional stability, contact with reality, will power, cultural background, temperament, glandular functions, motor integrations, physical health, and numerous other conditions must be considered in the interpretation of test successes and failures. Test results do not reflect specific intellectual abilities or aptitudes, but the end effects of broad personality patterning. Each child responds differently to different tests, according to his own make-up. Measures from several series must therefore remain unaveraged, as averages tend to obscure the very facts which are important for accurate and complete personality analyses. Whether

a child is good in reading and poor in arithmetic may be due to his temperamental make-up. Adequacy in manual constructions and inferiority in word knowledge may point to handedness conflicts or to the degree of mental stability present. The level of attainment in the various fields, discrepancies between adjustments, and the degree and direction of such discrepancies are invaluable in the study of children's behavior.

The relation of one test score to another is more important than the level reached in individual tests. High achievement in certain lines in comparison with others may reveal the existence of an unwholesome personality. The meaning of each test score is modified by the position of every other score and by the pattern as a whole. Low scores sometimes point to a favorable outlook in personality development, depending on the remainder of the constellation. In other cases, a low score on the same test may indicate the presence of a malignant mental disorder. In still others the same low score may be a symptom of brain injury, or educational neglect, or inherent feeble-mindedness. The accuracy of the final diagnosis rests upon results derived from many isolated, though reliably measured, functions. Each child has as many mental ages and intelligence quotients as the number of tests administered. The mutual interdependence and the relativity of the meaning of test results bring the simultaneous and objective study of several personality aspects within the realm of scientific possibilities.—J.J.

See: INTELLIGENCE TESTS, PERFORMANCE TESTS. PERSONALITY TESTS.

MOOSEHEART SYSTEM. Mooseheart is a City of Childhood located forty miles west of Chicago in the Fox River Valley and was established in 1913 by the Loyal Order of Moose as a home for dependent children of deceased members of the Order.

The Mooseheart System of Child Guidance is a thorough-going, comprehensive, widely extended and varied means of counseling; directing and assisting the children of Mooseheart.

The home, the church, the school, work experience, social life, recreation, medical care; all are used in getting a complete picture of the individual in order to aid him in normal development. The basic purpose of the system can best be stated as the attempt to realize this last point, **NORMAL DEVELOPMENT**, a difficult task in any environment but even more so with those who can never have the usual home life.

The first aim of the "City of Childhood" as a whole becomes the maintenance of a community in which dependent boys and girls shall have an opportunity to grow up under conditions as nearly as possible like those which are found in a good average home.

Another purpose is to give those who have no family to fall back in time of emergency upon a trade of some sort to make them self-sufficient after graduation. With this end in view the vocational training program becomes increasingly important in the later years of schooling.

Beside the vocational aspect, the social, the moral and the spiritual aspects of the child's education must receive due and liberal emphasis in the general educational program.

HOME LIFE: The effort to maintain a normal home atmosphere at Mooseheart is reflected in the very arrangement of housing facilities. Individual cottages are the home unit; each is a complete home, having its own kitchen, dining room, parlor, bedrooms, etc. A housemother and a cook, chosen for their special ability, take care of the education and training of the children in the home. Older boys have a housefather in addition, and very small children have as many as three housemothers to a cottage. With an average of fourteen to sixteen children in each home unit, a socialized family atmosphere, a spirit of cooperation and democratic representation are far more possible than in a home with one or only a few children. The children are grouped roughly according to chronological age since this factor equates such variables as dietary needs, interests, play activities, and avoids extremes in age range with the attendant problems of adjustment. Since community activities encourage the parti-

cipation of children of all ages, any disadvantages attendant upon isolation of age groups are effectively counteracted.

The prevailing atmosphere in these homes may be described as one of affection and consideration for the children rather than one of indulgent sentimentalism. There are certain tasks about the home that are the responsibility of the children, these tasks being rotated so that each child has the opportunity to gain experience at each kind of work and there is no feeling of favoritism. Each child in performing his designated tasks becomes an active contributor to his own little village community. Furthermore, personal efficiency in handling one's own affairs is fostered by the Student Bank, by buying clothes at the Department Store, remunerative work, etc.

This is the system of home living which forms an integral part of the Mooseheart system of child guidance.

ACTIVITIES AND RECREATION: Another feature of importance is the program of community activities. Community and school assemblies, motion pictures, regular church, Sunday School, student organizations such as the Boy Scouts, the Cadet Corps, and the Junior Fraternal units, church choirs, glee clubs, the concert band, the symphony orchestra, intramural sports, seasonal games and sports, a well-equipped playground, a recreation center for boys, and one for the girls, hikes, dances, swimming, are among the varied activities.

In addition, to insure contact with the outside adult world, there are off-campus tours to factories, museums, shops, concerts, neighboring cities, etc. Supervision is gradually relaxed as the children grow older, the older boys are permitted to visit neighboring communities unchaperoned, and there are frequent visits to the homes of resident employees. Thus the community and the recreational activities are definitely planned, organized and encouraged to give a program for the children, which is at least as varied as, and probably more so than, in any other community.

RELIGIOUS TRAINING: Religious and moral training is under the direction of two resident chaplains. Sunday services, religious instruction are part of the school program, and special

rites of the churches are administered by them.

COMMUNITY HEALTH: The health of the children is no less scrupulously attended. There is on the grounds a completely staffed and equipped hospital for the exclusive use of the community. The policy is one of preventative rather than curative medicine. Upon entrance, the student is given a complete medical examination and check-up. To implement this control of health, not only does the school nurse make a daily round of inspection but the houseparents, teachers, and all adults in direct charge of the children are careful to note and report any preliminary signs of illness.

All health services, medical or dental, are administered without cost as a part of the program of caring for and training the child; it is mentioned here, in exposition of a system of child guidance, because the primary requisite of any such system is a healthy child.

THE SCHOOL: Of course, the formal education of the child is a very important part of the whole program. The regular academic departments range from the nursery and kindergarten through to high school. Activities in these departments are similar to those found in approved public schools. Supplementing the instruction given in these departments are extensive library facilities.

VOCATIONAL EDUCATION: Giving to manual skills and manual labor the dignity and the emphasis that they deserve as the basis of our productive economy, the Vocational Education program is a unique phase of the Child Guidance program.

This general emphasis is obtained in the educational system through the program of community activity. This kind of program gives familiarity with productive work in general.

THE MOOSEHEART LABORATORY FOR CHILD RESEARCH: The very core of the entire system is the Laboratory, with its centralizing and coordinating organization. The purpose of the Laboratory may be stated briefly, as follows:

1. To give the administration at Mooseheart as complete a knowledge as possible of each individual child in the community. This information includes degree of mental brightness, special

abilities and disabilities, ability in the various school subjects, interests, character traits, personality characteristics, aptitudes, etc.

2. To follow the life and development of each individual throughout his entire stay at Mooseheart.

3. To furnish the administration with special and general surveys for the evaluation of teaching and training procedures.

4. To investigate all applications for admission as to mental, social and family background.

5. For scientific research in all phases of child development, care and training.

Thus, directly and indirectly, the activities have a part in every phase of the child guidance program of the entire community. This agency makes pre- and post-admission mental, educational and aptitude examinations. Since adjustment to a new environment always has its problems, the Laboratory makes a follow-up study on each new student three months after he is admitted. Routine annual individual check-ups on every child are made to insure good adjustment and a profitable program throughout.

In addition, a psychiatrist makes monthly calls to handle the more severe cases of maladjustment.

A final function of the Laboratory is research. Since its inception thirty-five publications by Laboratory staff members have appeared in various magazines and journals.

CHILD GUIDANCE STAFF: A Child Guidance Staff including the key persons in each phase of the community's life has weekly meetings to discuss individual cases. The placement of the new student in his school, hall residence and community activities and any changes or adjustments in program or general conditions are under its direction.

SUMMARY: The Mooseheart System of Child Guidance, aims at normal development through home life, activities and recreation, religious training, preventive medicine, the school and the vocational education program. Individual cases are handled by the Laboratory and the Child Guidance Staff. The various agencies are integrated primarily through the Mooseheart Laboratory for Child Research.—M.L.R.

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MOTIVATION. Physical strength and skill and mental ability are important factors in the child's behavior and achievement. Equally or more important are driving and directive forces behind the strength and mental ability which make the child do things and do certain things at one time and under certain circumstances and do other things at other times and under other circumstances. These are known as motivating forces. Thus, everything a child does is caused. Nothing just happens. We may not know what the forces are which are impinging upon him to make him act in certain ways, but there are many and complex, sometimes unanalyzable, factors which cause him to behave in certain ways. What he does is not just brought about by mere chance.

To understand the child and what he does and to guide, predict and control his behavior for his development into an adequate social human being, it is necessary to understand the motivating forces behind his behavior.

The earlier psychologists postulated "instincts" as the causative factors behind human behavior. These instincts were variously defined but generally were considered as ready-made reaction patterns, appearing at birth or later, being wholly unlearned modes of behavior, such as sucking, crying, manipulation, fear, pugnacity, mating, etc. The number of these instincts postulated by different psychologists varied from five to fifteen hundred. This first step in giving names to forces was a definite recognition of the need for

discovering causes to account for behavior, but the causative factors behind acts thus named were left in complete obscurity.

The psychoanalysts were the first to attempt to apply psychology to man in order to discover motives which activated human behavior and through the understanding of such motivating forces behind behavior to guide and control the individual. Although many of their methods, techniques, and theories have been discredited, their emphasis on the cause behind human behavior was the beginning of an effort to account for and direct human activity through underlying causative factors.

The behaviorists attempted to account for human behavior as dependent upon a more or less conglomerate of separate action units, and the child's behavior as made up of separate specific, simple reactions to stimuli. According to the behaviorists, through reacting to such stimuli, the separate units become joined together into a unified reaction pattern, such as sucking, crying, hiccoughing, eye movements, smiling, grasping, leg and arm movements, and all other reactions noted in the new born infant. The pupillary reflex, usually illustrated by the use of a flash light, is a typical example. It is universally present in all normal adults. The new born child by the time it is thirty hours old usually will respond, but he does not do so perfectly; hence he is subject to training.

These responses are largely due to immediate stimuli; they are only a small part of human behavior and are of little importance in determining how and with what a person will act. A fundamental source of his behavior is to be found in the chemical unbalance of his whole organism. The enormously complex chemical changes going on within him are more important in determining his action than the external stimuli impinging upon him. The general and specific conditions of his living tissue determine his reaction when aroused either exteroceptively or interoceptively to respond. Activity thus aroused continues over a period of time with a directive force behind it until through such response the organism's need is met, and it again is satisfied and quiescent. Such fundamental motivating forces are normally referred

to as drives, urges, cravings, wants or desires, springs of action, desire to be active, etc. Organic tissue needs which serve as drives are: hunger, thirst, need for rest, need for shelter, need for air to breathe, maintenance of temperature, sex urge, and avoidance from injury or other unpleasant stimuli.

Hunger is due to a chemical disequilibrium. This causes activity which is directed toward food getting to the extent and the manner determined by the organism, its capacity and need, and which is satisfied by eating. The motive and the end response are dependent upon the type of organism or the age and degree of civilization of a human individual. Other drives function in a similar manner. The sex drive differs in that it is a motive to perpetuate the species while the other motives are for preservation of the individual. This love or sex motive is satisfied only by the consummatory response, mating. The maternal motive is a by-product of the mating motive. The chemical disequilibrium of the reproductive glands usually is the physical basis of the sex drive.

Emotion arising from a situation which causes dissatisfaction results in a visceral tension and increased activity on the part of the individual, or depression of overt behavior, thus serving as a motivating force for reinforcement or inhibition of behavior. Fright thus causes a child to scream and run. Anger gives energy to combat, and fear has a paralyzing effect on the body and inhibits movements.

Emotions of a positive nature, such as patriotism, love of home or religion, activate us toward socially approved goals and undoubtedly are some of the greatest motivating forces directing human activity.

Animals, other than humans, presumably act largely because stimulated by organic visceral drives or by some exteroceptor. To a limited extent, they seem to be motivated by others of their species. Man, however, is definitely a social being and, therefore, is most highly motivated by others of his kind either singly or in groups. Social motivation is of various kinds and of varying degrees, depending first upon the age, habits, background, physical and mental condition of the individual, and

secondly upon the social situation surrounding the individual.

An individual may work alone but be retarded or stimulated by the awareness of someone near or far but not present. He may be variously influenced by the mere presence of some other person in the room with him. He may be stimulated to work more or less effectively by working with him in cooperation or competing against him. He may be motivated by the fact that he is in a group directed by a great leader or that he is the leader of the group.

As a young child, he is greatly motivated by a system of punishments and rewards as administered or withheld by other humans.

Through interaction between him, inanimate objects, animals, and humans, the child builds up for himself, i. e. learns habits, attitudes, and ideals which throughout his life are the forces basic and underlying all other forces motivating human action, and thus themselves serve as motivating forces.

No one has yet been able to say definitely what is a normally motivated child. No one has been able to say if, when, and how perversely an individual will react if stimulated in certain ways and degrees. We do know that some motives are more effective than others, that two motivating forces in the same direction are more effective than one, that two such forces in opposite directions may annul each other's effectiveness or the activity may go in the direction of the stronger motive, that where other humans are involved, the motivating force generally is stronger than where only things and situations are the stimuli. Finally, we know that what, how, and to what degree an individual is motivated is determined by his own physiological condition, by what and how he has learned to respond as well as by the nature of external forces impinging upon him.

—M.L.S.

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MOVIES. See RADIO AND MOTION PICTURES.

MUSIC. Music, including singing, is the most accessible of the arts, as far as children are concerned. Even before the age of one the child responds to music, though his attitude can by no means be called one of appreciation. This response is at first mainly symbolic, as indicative of the mother's presence when she, for instance, hums a lullaby. Insofar as the child feels secure in her presence, the response to her singing is positive, that of acquiescence.

Possibly even at this early age, the child responds to rhythm, though this has not been definitely determined. The fact is, however, that by eighteen months the child often responds to music by change of his position and by motions (W. Stern). As many authors have pointed out, there seems to exist some connection between the tempo of music and that of organic processes. It cannot be a mere accident that joyful music is fast and sorrowful music is slow. Rapid tempo may suggest, to be sure, not only joy, but also excitement, agitation, struggle—an emotional experience involving acceleration of bodily functions; and similarly, slow tempo may suggest not only sadness, but also restfulness or dejection—any feeling state accompanied by retardation of bodily functions. Whatever the case may be, response to rhythm, to pitch, loudness and timber may have some obscure connection with fundamental organic processes.

The two-and-half year old child is already aware of music as distinct from noises. He may be quite familiar with a number of songs and may attempt to sing them by himself or participate in group singing when it is a part of play. It is difficult, of course, to say whether he enjoys the singing itself or the playing; probably mainly the latter. At any rate, he responds unmistakably to rhythm and will run and skip to tolerably good time. As the range of vocal tones develops rapidly up to the

age of six, vocal training is quite appropriate at this period of growth. In the light of their research findings, Jersild and Bienstock suggest the following: "At the beginning of training, when songs are first introduced, it seems best to select songs that are well within the child's tonal range. A test of this ability to reproduce tones is helpful in discovering what this range is. When a child seems unable to sing, this may mean that the song that is assigned is not suited to his voice and should be transposed to a higher or lower key. If a child has only a limited tonal range, chromatic intervals should be introduced as a means of providing greater variety and as a means of avoiding too much monotony in the materials he is asked to sing. Many children who at first seem either inhibited or incompetent respond favorably to opportunities to sing in unison with others and to the example of hearing another competent child perform."

As the child grows, his ability to recognize melodies steadily increases, though he is able to grasp at first (before approximately 6) only the general outline of melodies (W. Stern). Phonograph and radio music are enjoyed more and more. Familiar tunes seem to evoke joyful memories. The tendency to respond to music by bodily movements usually persists, but there appears also interest in music as such, quite independently of playful activities. It is the period of development, when the child may approach spontaneously a piano and listen intently to the tones his finger is producing. It is well to bring to his attention, at this time, such compositions (phonographic records) as Debussy's "Children's Hour," Rimsky-Korsakoff's "The Flight of the Bumble Bee," Herbert's "March of the Toys," Saint-Saen's "Carnival of the Animals," Schumann's "Soldiers' March," or Humperdinck's Waltz-Duet from "Haensel and Gretel."

MUSIC APPRECIATION. In any attempt to develop the child's music appreciation, it is useful to remember that his aesthetic experience is a product of growth rather than of inborn capability. Nor does it arise independently of other activities, particularly of play. There seems to be a close parallel between the maturation of the child's other abilities and that of music appreciation

in its various phases. "In the early stages of music training," says M. Storr, "we shall expect most advance on the rhythmic side." Hence, the first music introduced to the child must be of a strongly rhythmic type; it is desirable for him to move about while he listens. Interest in melody and especially harmony can wait: it belongs to a later period of life. Rhythm is the main thing that appeals to the child before the age of six.

As C. W. Valentine has shown, children do not manifest any marked preference for consonance at the age of six or seven; but from that time on dislike for discords seems to be definitely on the increase, especially among musically gifted boys and girls. The sense of feeling is, however, slow in coming and should not be expected before adolescence.

There is no doubt that appreciation of music is largely a question of conditioning. Pleasant memories and associations, entertaining activities connected with music, and praise tend to increase such appreciation and provide motivation for doing something about it. Parents should avoid introducing elements of dissatisfaction into the situation. For instance, if the child sings loudly and disturbs the adults, he should not be scolded or punished; it is always possible either to guide him into a more pleasing way of singing or to find a temporary substitute for self-expression. A similar negative result may be caused by asking him to sing when he feels reluctant to do so. Teachers, too, should never discourage the child in group singing, for its value lies not so much in the artistry of performance as in the favorable effects of social participation. If the child is treated considerably and encouraged in his musical activities, nothing will stop the normal development of his aesthetic taste. If he has a talent—a good musical memory or ability to sing or play some instrument—he will have an additional reason to enjoy music, for every child

likes to excel, to succeed, to be praised.

MUSICAL ABILITY. It is difficult for the parents to determine, without prejudice, whether their child has a talent or not, unless it is so outstanding that no room for doubt is left. On the whole, parents are poor judges of their own offspring; moreover, they are likely to mistake the child's interest in, and enjoyment of, music (positive conditioning) for real ability. It is for this reason that it is so important to find objective ways of measuring and testing the child's musical ability. Numerous measures of musical ability have been devised, the more scientific of which is a battery of tests standardized by Carl E. Seashore which are available on phonograph disks. The tests measure the following:

- (1) the sense of pitch;
- (2) the sense of intensity;
- (3) the sense of time;
- (4) the sense of rhythm;
- (5) the sense of consonance;
- (6) musical memory.

—M.S.

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See: RHYTHM.

N

NAIL-BITING. This undesirable habit is common among adolescent boys and girls. Among smaller children it is largely a result of imitating an older brother or sister; occasionally, especially among the girls, toe-nails are bitten. It is often asserted that the habit is an outgrowth of thumb-sucking, but the contention has never been sufficiently proved. Rather, there are ample reasons to believe that it is an expression of unreleased tensions (and hence may have a common cause with thumb-sucking), and manifests itself when attention is passively concentrated on something, for instance, in reading an interesting novel, watching a show or taking an examination. Punishment is usually ineffective, mainly because the child bites his nails (or cuticles) precisely when he is least aware of doing so. The application of unpleasant chemicals or drugs is but slightly better. Pavlov's method of unconditioning—in this case, by biting nails deliberately from time to time—is more successful with adults than with children. Praise and appeal to vanity are useful. But the basic treatment consists in providing the child with adequate outlets for tensions; depending on the case, physical exercise, social activities, or development of new interests may be advised. On the other hand, if the tensions arise as a result of unwholesome family atmosphere and similar psychological grounds, the latter must be resolved.

See: **CONDITIONING, HABIT.**

NARCISSISM. It is one of the most important concepts of the more general psychoanalytic doctrine of the "libido" and its vicissitudes. Libido is "that force by which the sexual instinct is repre-

sented in the mind". Freud originally stated that this force might be regarded as "analogous to the force of hunger or will to power and other such trends among the ego tendencies". He thus made a distinction between the energy (libido) derived from those instincts which had an object (love object) as their aim, the sexual instincts, and other forms of energy derived from what he called the "ego instincts", and manifested chiefly as a self-preservative urge. Later he came to the conclusion that at least a part of the self-preservative energy is also of a libidinal nature, i. e., self-love as well as object love must be reckoned with. It is this self-love which is termed "Narcissism". A primary and secondary Narcissism are recognized. Abraham also speaks of a negative Narcissism, denoting by it the tendency to extreme self-depreciation manifested by the melancholic.

Various theories, some quite fantastic, have been advanced in explanation for the turning of the libido towards the self of the infant and young child. It is sufficient to assume that the need for this lies in the child's sense of insecurity and helplessness and its need for love as a security-giving experience. Insofar as it is able to dispose of its own sources of libido it turns it towards self. Certainly the child is on the receiving and not on the giving end in the economics of love as far as its earliest environment is concerned. Primary Narcissism is this original absorption of the libido by the self. Normal functioning requires a degree of mobility of libido so that it might readily be shifted from object to object and reduce the tendency to "fixation". It is suggested by some that all the love energy at the disposal of the self is originally directed towards the self and that gradually varying quantities

of it are directed toward objects. In addition, to the self and "love objects" (people, things, interests) libido may also be directed towards fantasy as its object. The late L. Pierce Clark suggested that there is first an allocation of libido in the total economy of the individual Ego, with gradual division into two channels, one flowing towards the various erotogenic zones to be placed ultimately at the service of the sexual aim; the other flowing towards the preservation of the personality (narcissistic protection of Ego against own self-destructive impulses). I am inclined to favor this view of the matter. At any rate, not all the Narcissism evident in the average man or woman can be viewed as secondary Narcissism. By this latter term is meant the investiture of the self or of the fantasies of the self by libido withdrawn from objects to which it had already been attached. It constitutes clinically the evidence of both a withdrawal and introversion, prominent phenomena in psychopathology.—B.G.

NEAR-SIGHTEDNESS. Near-sightedness, or myopia, is largely a trouble of civilized life. Among primitive people it is rare; even people of rural occupation in this country suffer from it comparatively seldom. Its victims are mainly city inhabitants. The average for the country as a whole is over twenty percent; but out of every hundred children born and brought up in the city about fifty-four are expected to be myopic by the time they reach maturity.

Physiologically, near-sightedness is determined by the fact that the image is focused by the crystalline lens in front of the retina rather than on it thus producing blurred vision. The fault is not inborn but acquired, although hereditary predisposition is not altogether excluded. At birth, practically all babies have perfectly normal double organs of sight, adapted somewhat better for distant vision than for near. As years pass, the eye-balls increase in size, growing 30% in diameter by the age of late adolescence. It means that their structure and function are susceptible to modification and, under unfavorable conditions, to a faulty development resulting in near-sightedness. The fault seldom becomes serious before

the age of eight, and its incidence continues to reveal itself till approximately fifteen. In adult life new cases are rare and caused almost exclusively by pathology, for instance, by diabetes.

It is usually concluded that the poor eyes of the young are caused by strain connected with reading and work requiring close attention, especially when lighting is inadequate. Accordingly, our teachers have been conducting campaign after campaign for the improvement of printing, so that youthful eyes would not be forced to strain excessively. They do their best in discouraging the formation of a habit to stoop over books. Lighting in class-rooms has been appreciably improved. Our educators try, though with moderate success, to reach the parents and to convince them of the importance of good lighting at home. Industry, too, has by this time become light-conscious and, wherever work has to be done at close range, special lights are being installed, unless the expenditure is prohibitive.

There are reasons to believe, however, that this familiar explanation accounts only for a part of the story. It is generally acknowledged that educational campaigns to improve book-type and lighting bring best results in the homes of well-informed and well-to-do families. Yet precisely in these families do we observe the highest percentage of near-sightedness. Moreover, almost in every case, myopia can be traced to a much earlier age. In other words, children develop, or begin to develop, the fault before they start straining their eyes by excessive reading or work at close range.

A number of supplementary theories have been developed to explain the whole phenomenon and its causes. Some ophthalmologists and optometrists attribute the fault to an acquired defect of the crystalline lens; others, to a spasm of the ciliary muscles (which control the shape of the lens and thus accommodate the eye for objects perceived at various distances). According to Dr. E. M. Josephson, near-sightedness "owes its origin to the same type of disturbance in the fluid exchange of the eyes as does glaucoma." This fluid, known as 'vitreous humor', may fill the eyes during the formative period to such an extent, he maintains, that the eye-balls elongate, thus causing

myopia. Interesting but rather fatalistic is the view of Dr. A. M. Skeffington, according to whom "there is nothing fundamentally wrong with our eyes. Glasses merely are an aid to adaptation of our eyes to the artificial demands of near vision."

There is significant truth in this remark concerning "the artificial demands of near vision." We must concede that the advance of Western civilization has been accompanied by a disproportionate increase in near-sighted people. Lowly biology and high culture somehow fail to remain in accord. As Dr. Luckiesh writes in one of his books, "viewed biologically, we came indoors only yesterday. Eons of evolution in the natural world adapted our bodies, sense-organs, life-processes and even our mental life to the commonplace factors of the outdoors. We are more than children of Nature. We are her slaves in important fundamental respects. Our lack of knowledge makes us think we are free; but we are free only superficially. We built an artificial world and became its victims to some degree." And indeed, our anemia, our flabby muscles, our decayed teeth, our near-sighted eyes demonstrate that we jeopardize our health by living in an overprotected and hence disharmonious environment—even though we also protect our health against plague, cholera, small-pox, and diphtheria.

The eyes are not different from other parts of the organism in this respect. Many organs and tissues of the body mature after birth, in response to normal stimulation. A baby must kick and crawl in order to learn how to walk. He needs preliminary exercise and parents' stimulation in order to talk. Light, too, is a partner in the formation of the child's normal vision. Without it, the eyes would not develop properly. Just as horses grow blind when working constantly in underground mines, so human beings suffer if deprived of the wholesome exposure to visible rays. The continual convergence of the eyes, required by too much attention to objects right in front of one's face, is biologically abnormal and quite strenuous; it endangers the eyes and may easily result in that unfavorable adjustment to the artificial conditions of our city environment which is called myopia.

Exactly what is the difference between an environment for which we are biologically fitted and the civilized environment? We have seen that the latter calls for an extraordinary amount of close visual work, often under conditions of insufficient lighting. But is that all? Is this the only possible reason why so many of our youngsters develop near-sightedness? Decidedly, no. There is another fact, ordinarily overlooked; it is, namely, that under natural conditions, the child is born and grows in open spaces, where things can be seen at a distance and where life takes place within the wide circle of horizon. Under the civilized conditions of the city life, on the other hand, the child is born in a hospital room or in a private home, then kept almost all the time indoors or in a perambulator constructed in such a manner as to prevent the child from looking at outside things; and his subsequent life takes place within the limited space of apartments and city streets.

Studies of various occupations reveal that sailors, hunters, farmers, and country laborers—mainly people born in the more natural environment of the country—manifest defects of vision (all kinds, including far-sightedness and astigmatism) in less than 20 percent. Teachers, clergymen, physicians, and bookkeepers, on the other hand—mainly people in the more artificial environment of the city—show ocular defects up to 80 percent. Finally, occupations including persons from both country and city, such as miners, carpenters, masons, and housewives, yield the statistical figure ranging between the two extremes, that is, from 20 to 60 percent.

In our own research conducted mainly among college students of the metropolitan district, these were the significant results: Among 465 cases, who were born and lived in the city (during infancy, up to one year of age and beyond), 54% were myopic; among 61 cases, who were born and lived in small towns, 41% suffered from near-sightedness; and among 49 cases, who were born and lived on farms, only 12% were afflicted by the fault.

It seems to follow that the place of birth and the early environment play a decisive role in the child's development, as far as vision is concerned. To

put it differently: the infant's sense of sight needs exercise, especially when it begins to follow external objects with its eyes (seldom before the age of four weeks) and, subsequently, to manifest recognition of objects. As the majority of our population cannot help but live now in the cities or towns, the only practical recommendation is that children be given ample opportunities to look at distant things and exercise their eyes, particularly at the early age. Visits to parks, riverbanks, seashore and, of course, country places are highly recommended; it may not be wrong to let the child spend the summer in a good camp.

This is one of the essential measures for the normal development of eyesight and for prevention of myopia. Another vital measure, already referred to but applicable mainly to a later age, is to provide the child with plenty of light both at home and in the school. Let there be light for him during the day, as nature herself would give it. Let there be light for him in the evening, as the civilization can arrange it.—R.B.W.

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NEGATIVISM. Negativism is the name for a persisting attitude of resistance or opposition to the environment. As a rule, this negativism starts as an accidental resistance of the 1½ to 4-year-old child in certain specific situations. The situation can be any one of the following: (1) The child begins to plan but does not yet know his own mind and becomes irritated over suggestions; (2) a habit has been formed by the child or else taken over by the child as part of his own planning and in this stage the child cannot cope with unexpected changes in such a habitual program; (3) unexpected demands are being made on the child without being assured of the child's cooperation beforehand (this characteristic accounts for test failures at this age, that is, if the tests have not been carefully introduced); (4) the child has worked out a new idea or a program of play and is misunderstood while attempting it or interrupted while carry-

ing it out, and the child cannot, in this period yet cope with being thrown off the track. The negative effects of repeated interference have also been demonstrated experimentally.

Difficulties of the specified kinds are generally not yet encountered before the age of 1½ years because the child younger than 1½ years does not yet anticipate future situations in his imagination as the child of about 1½ years starts to do. The child older than 4 years must be expected to have learned to cope with unexpected and interfering events and demands interrupting his activities. He can also explain himself better in what he wants to have or to do. That is why practically all observers of this early resistance (Bathurst, 1933; Buhler, 1935; Caille, 1933; Goodenough, 1929; Levy and Tulchin, 1923; Mayer, 1935; Nelson, 1929; Reynolds, 1928; Rust, 1931; and L. A. Weiss, 1931) agree that this resistance diminishes with age. Several of these authors consider this resistance a normal phase of maturation, because it is observed in a very large percentage of children. It seems, furthermore, that this resistance appears at the same age level under very different educational conditions. M. Mead (1937-1939) described resistance in children of various primitive cultures; Danzinger und Frankl encountered the same behavior in Albanian primitive mountain tribes (1934); and K. Iwai observed it in Japanese infants (1935).

This simple resistance, as we may call it, is to be discriminated from real negativism by the following criteria. It is an accidental opposition, not a fixed attitude; it is a "catastrophe reaction" (Goldstein), that it is to say, a reaction of despair rather than a reaction directed against anybody; therefore, there is no hostility in the simple resistance, and, last of all, it disappears in a few weeks or months. In any event, it should not be encountered after 4 years.

Negativism in the full sense of the word is a fixed attitude of opposition directed against somebody. This attitude can develop out of a wrongly treated accidental resistance, or else it can also have other causes. It can be the result of constant frustration, especially lack of affection from the parents. Also repeated failures in living

up to expectations can ultimately have the effect of causing oppositionism against suggested aims. This situation can result from an environment's too high demands on a child, considering the child's capabilities, or else from a deficient or poorly equipped child's attempts to compete with a normal environment. In other words: (1) insecurity due to constant failures in achievement, either because of exaggerated demands or because of subnormal equipment; (2) insecurity in social contacts due to the parents, especially the mother's lack of affection; (3) insecurity of behavior in any situation, caused by wrong management—all can result in resentful oppositionism. Wrong management, which frequently begins with inconsistent or overemphatic or too casual handling of the daily routine in the baby's life, usually comes to a climax with incompetent handling of the child's simple resistance. This continuous mishandling and misunderstanding of the child has a provocative effect and gradually leads to a prolonged, stereotype, hostile oppositionism.

The criteria of this attitude of negativism as compared with accidental resistance are: (1) persistent, stereotype opposition of the child to all suggestions of either one person or else of everybody; (2) doing something different or even the opposite of the suggested activity, not because this activity is desirable but because it nullifies the adult's authority; (3) watching the effect of a counteraction on the adult with interest primarily in the effect which is being produced rather than in the activity as such; (4) a hostile element in the opposition; (5) a fixed oppositional attitude lasting on for any length of time after the fourth year and increasing with age, though possibly in a concealed form.

While simple resistance is an ordinary educational problem, negativism must be defined as a neurotic behavior that can be remedied only by competent treatment. It is "neurotic" in the sense that it is an unconscious fixed attitude of escape or defense with substitutes instead of real aims, resulting from unfavorable conditions of life with which the individual was unable to cope.—C.B.

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NURSERY SCHOOLS. FORERUNNERS OF THE NURSERY SCHOOL: Preschool education in the more formal sense is not an achievement that can be attributed to the twentieth century alone. As far back as the very beginning of the eighteenth century, for instance, the Charity School Movement in England gave some attention to the religious education and physical protection of young children (31). In the first half of the nineteenth century, institutions supported less by motives of charity than the Charity Schools were, and devoted principally to the education and care of young children, began to appear in England and on the European continent. Some of these institutions, such as the 'Salles d'Asile' in France and the 'Ecoles Gardiennes' in Belgium, were, as early as 1833, given some recognition and support by the state (8, p. 103-104). The first infant school (école à tricoter—i. e., knitting school) was established in Walbach, France, by Jean Frederick Oberlin (1) but a more famous one was established in 1816 at New Lanark by the enlightened Robert Owen (20). In Italy in 1829 Abate Aporti founded an infant school at Cremona (8, p. 67). The counterpart in Germany of the infant school was the Kleinkinderbewahranstalt which was usually supported by some religious group (8, p. 67).

In the main, although it represented an advance, the infant school was characterized by a sort of asylum care, formal teaching, religious and moral discipline, and a rather repressive set (29). There were, however, such leaders as Robert Owen who taught that young

children should be joyous, that play could be educating, and that music, dancing, and stories were appropriate experiences for the very young (20, 21).

In the latter half of the nineteenth century the kindergarten, crystallized by Froebel (10), came into being. This was an institution committed, in theory at least, to helping the child unfold his powers instead of to fitting him into some moral or intellectual mold. The naturalism preached by Rousseau tended to color the thinking of many who supported the kindergarten (10).

In America the kindergarten, under the guidance of such figures as Elizabeth Peabody, Marie Boelte Kraus, Susan Blow, Elizabeth Harrison, Anna Bryan, and Patty Smith Hill, lost much of its didactic procedure, and, responding eagerly to the rapidly accumulating information concerning child nature which the times yielded, led in the movement toward individualized, positive and dynamic teaching.

Although typically the kindergarten devoted itself to the child of five, and the more intellectual aspects of his training at that, it did occasionally draw its pupils from among those younger in age. Thus both in the group served as well as in basic philosophy and procedures some kindergartens were rather similar to the typical present-day nursery school.

BRITISH NURSERY SCHOOLS: The nursery school, in name at least, is of British origin. In 1907 a report of the Consultative Committee of the English Board of Education recommended the establishment of nursery schools because the Committee believed that many young children who needed care could not find suitable surroundings or activities in the infant schools of the day (3). Miss Margaret and Miss Rachel McMillan established the first nursery school in London in 1909 for the neglected children of the poor (15). The Misses McMillan and Miss Grace Owen led the cause of nursery schools in England. Their efforts, along with those of others, were rewarded in 1918 by the passage by Parliament of the Fisher Act which made possible the establishment of nursery schools throughout England (1) by granting the Local Education Authorities the power to supply or to aid in supplying nursery schools for children over two

and under five and (2) by providing grants to these nursery schools up to the extent of half of the net expenditures (34). The Fisher Act also specified creditable standards for the staffing and housing of the schools open to the inspection of the Local Education Authority (34).

In 1923, when the nursery schools in England numbered 26, the Joint Parliamentary Advisory Council expressed approval of the work of the units that had been established, but, frowning on the per capita cost, suggested that an increase in the number of schools could not be encouraged until the expense of their operation could be reduced (35). Nurseries did, however, continue to multiply but slowly (4, 28, 32). In fact, not until after the present war was well started did a very rapid expansion occur. Then, when women were needed in industry and other war activities, when families had to migrate from danger areas and to be content with scant quarters, the relief nature of the nursery school and the day and residential nursery began to be appreciated. Approximately 322 wartime nurseries were functioning in Britain in March, 1942, and a total of 1064 had been approved by the Ministry of Health and the Ministry of Labour (33). Many of these nurseries, it should be stressed, are more than schools in that care is provided for the children from twelve and fifteen to twenty-four hours a day. These institutions are headed by persons with professional training, volunteers who have had short training courses only assisting in the care of the children (33).

AMERICAN NURSERY SCHOOLS: The British nursery school was originally planned with the needs of the economically underprivileged in mind. In this it differed from the earliest American schools, which represented chiefly projects of centers of higher learning. Pioneer schools appeared in America in the decade from 1915 to 1925 on the campuses of the University of Chicago, the Bureau of Educational Experiment, the Child Education Foundation Training School, the University of Iowa, the Merrill-Palmer School, Yale University, and Columbia University (6, p. 2). These universities and colleges, as might be expected, were interested in the nursery school not only

as a service institution which would benefit the pupils but also an agency for providing valuable opportunities for the training of teachers and as a source of much research material concerning the behavior and development of young children (6).

With the colleges and universities leading the nursery school movement, it should be no surprise that the program, staffing and quartering of the units established before the 1930 depression cast its pall over the land were in the main superior. Small institutions representing a mushroom-like growth, directed by persons of doubtful training, and housed in whatever quarters might be at hand, were relatively rare (30). The number of institutions of this latter type is likely to increase as the nursery school idea spreads, unless state and local legislative safeguards are instituted. The State of New York, which has been a pioneer in legislation of this sort, controls standards by licensing nursery schools along with other institutions concerned in any serious way with the care and education of young children.

Whereas in 1920 only three nursery schools were reported to the United States Office of Education, in 1930 it was estimated by those who directed the White House Conference Survey of institutions concerned with the care and education of children under six that there were about 500 nursery schools in the country, although only 343 were actually located (30). Since data regarding the number of units in the United States in 1941 are in the process of analysis by the Office of Education, no accurate data concerning the fourth decade can be offered; but it seems safe to assume that nursery schools at the end of the fourth decade were numbered well over 2000. There are approximately 1500 alone operating under the administration of the Works Progress Administration.

CHARACTERISTICS OF A TYPICAL AMERICAN NURSERY SCHOOL: According to the White House Conference Survey (30) the typical nursery school in the United States about 1930 enrolled 19 pupils. These pupils ranged in age usually from two to five years, only a few schools enrolling children as young as one year of age and as

old as six. The model school was in session from 9:00 to 12:00 A. M., five days a week, nine months of the year, though one third of the institutions surveyed had afternoon sessions extending to four o'clock or after. The staff of the model school consisted of two head teachers, a student teacher, and either another teacher or a nurse, these staff members having had some college training and most having even acquired a college degree. It was generally the policy of the schools investigated to have the children examined for contagious diseases upon arrival each morning, to check each child's weight once a month, to keep a medical history of the pupils and to insist upon a thorough physical examination at least once a year. Fifty per cent of the nursery pupils investigated had been vaccinated for small pox and thirty per cent immunized for diphtheria. Most of the nurseries followed the plan of providing daily orange or tomato juice and cod liver oil. More than fifty per cent of the schools surveyed possessed a piano and phonograph, and ten out of twenty common kinds of play apparatus the Committee enquired about, as well as thirty-three out of forty common kinds of play materials. The schools averaged 5,175 square feet of outside play space. There were 275 square feet of out-of-door space and 12 square feet of indoor space for each pupil, on the average.

It is interesting that the White House Conference Survey (30) showed the kindergarten to be less well staffed, on the average, than the nursery school, to be about twice as crowded and to be less concerned for the mental and physical health of the children. The kindergarten had typically, for instance, three staff members for 34 children, whereas the nursery school had four for 19 children. No very recent material comparable to that in the White House Conference Survey is available; but doubtless there is less of a gap between the kindergarten and nursery school today than obtained in 1930.

Play, and that not highly directed or formal, looms large in the program of the nursery school. Handwork, music, rhythms, building, gardening, carpentering, field trips, discussions, and stories are usual activities; but these instead of being teacher-dominated tend to be child-centered (6, 9, 24). It is rather

usual to encourage the children to be active in the planning and selection as well as in the carrying out of even the more formal projects and activities. When the children lunch and nap at the school, the opportunities these routines provide for building good health habits are not overlooked. Most nursery schools, too, as a health as well as an educational measure, make a point of keeping the children out-of-doors a fair proportion of the time (6, 9, 24).

EMERGENCY NURSERY SCHOOLS:

While up to 1933 the nursery school in the United States served chiefly the children of the middle and upper classes, in 1933, during the depression, the Federal Emergency Relief Administration made provision for the establishment of Federally supported Emergency Nursery Schools principally for underprivileged children in those communities where local initiative was sufficient to supervise and carry through the project. During 1933-34, 2979 school units enrolling 64,491 children were organized (16). By 1934-5 the units had dropped to 1821 in number but 72,404 children were served (17). In 1935 when the Works Progress Administration took over the supervision of the Federally supported nursery schools there were about 1900 units with approximately 75,000 pupils. Since 1933 Emergency Nursery Schools have been organized in the forty-eight states of the Union and in the Virgin Islands. The children in these schools pay no tuition. In 1942, however, some nursery schools which charged a small tuition fee of twenty-five cents or less a day were established under the supervision of the W. P. A. and local education authorities. The W. P. A. schools ordinarily have a six-hour program and provide the children with a noon-day meal; but in 1942 some nursery schools with programs and hours designed to meet the special needs of children in defense areas and the children of mothers employed in defense industries began to appear on the scene (according to a personal letter from Florence Kerr, Assistant Commissioner, Federal Works Agency, Work Projects Administration). Some of these schools care for the children for twelve hours a day.

AIMS OF NURSERY SCHOOLS IN THE UNITED STATES: The nursery

school, according to various surveys (6) and specific statements of aims by the National Association for Nursery Education (17) which since its establishment in 1925 has reflected the opinion of nursery workers, is committed to furthering the development of the whole child. In the pursuit of this objective it is probably more effective than the units of any other level or the school system, perhaps because the preschool child is less differentiated than is the older one. Since it is recognized that each child is different, efforts are made by the teachers to understand the needs, values, and potentialities of each pupil. The nursery school is concerned with helping the child to feel secure and to develop initiative, creativeness, interest in problems, self respect, enjoyment of people, emotional poise, independence, constructive defenses, friendliness, good health, motor and sensory skills and well-integrated understanding (6, 9, 18, 24). This is distinctly different from the list of virtues—prominent among which were obedience, humility, and manners—to the cultivation of which the infant school alleged itself to be dedicated.

The nursery school in the United States, as a rule, has close contact with the homes of the pupils and carries on an active program of parent help and parent education, whether its patrons are wealthy or from the underprivileged groups. Seventy to eighty-six per cent of the nursery schools reporting to the United States Office of Education in 1932 mentioned parent education as a major objective (6, p. 30). Many schools also serve as teacher training and research centers.

INVESTIGATIONS CONCERNED WITH THE PROBLEM OF THE EFFECTS OF NURSERY SCHOOL EXPERIENCE: Studies investigating the effects of nursery school experience are numerous. Since, however, nursery schools differ a great deal in program, equipment, staff, and philosophy, it is questionable whether one can generalize from the findings. Rather, the studies suggest what certain types of schools and programs can accomplish.

Investigations aiming to discover the influence of nursery school training upon the I. Q. are many. The results from the various ones, however, are not in strict agreement (19). Most

studies, especially those dealing with children from the upper classes, indicate little or no effect, although the workers at the University of Iowa, for example, believe firmly that their results show a cumulative favorable influence for most children (19). Since experimenters have found it difficult to eliminate the biases created by selective factors, to follow through for any lengthy period of time the same child population, to equate motivation during testing in supposedly comparable groups, and to know the role in shaping the results obtained of the standardization and the structure of the measuring instruments used, we may find in these items some explanation of the differences in the reported findings.

Although many have accused the nursery school of furnishing the preschooler a too stimulating environment, no data on this point worth offering are available. Several studies seem to agree, however, though none employs particularly precise and dependable procedures, in suggesting that nursery children tend to be more aggressive, self-reliant, independent, self-controlled and socially mature than are non-nursery school children of comparable ages and status (11, 14, 22, 26, 27). As a refutation of the criticism that the nursery school exposes young children unduly to contagion, the University of Iowa presents the encouraging evidence that its nursery pupils have, on the average, fewer contagious diseases than comparable children not in school (25). A few investigators have reported that height and weight records tend to be better among nursery than among non-nursery children, though when the nursery pupils are drawn from the favored classes their performance in the matter of height and weight tends to present a no more favorable picture than that apparent among the subjects in the control groups (13).

The reported findings described in the preceding paragraph seem reasonable. Until, however, we can eliminate or control with certainty the effects of such possible selective factors as the parental attitudes and child qualities which result in the placement of children in nursery schools and such distorting influences as differences in the meaning of the test situation for the

groups measured, we cannot be too sure of the full significance of our data. In addition, we must not only not forget that in the studies to date the instruments used for measuring those qualities called personality traits were necessarily very crude but also that the studies have usually been concerned only with the question of the effect of experience in a superior nursery school upon children from the favored classes. More attention needs to be given to the work of the small private school and to the school serving the less fortunate groups, before we generalize broadly.

Such evidence as we have, then, though not without flaws, seems to suggest that nursery schools have tended to serve their pupils well. If in addition to this service we put on the scales, when assessing the institution, its contribution to research in child development, and to the education of not only teachers and parents but also of many students and persons not in these categories, we must readily recognize that weighty indeed are the nursery school's benefactions. It does, hence, seem unfortunate that only about 100,000 out of 16,000,000 preschool children in the United States are having the opportunity of attending a nursery school. Although the war makes impossible any comparison of the nursery school programs of the countries of Europe with those of the United States, before the outbreak of hostilities it was clear that the plans of at least several European countries for preschool education were considerably broader in scope than those which obtained in the United States (5, 7).

—H.L.K.

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OBEDIENCE. The child should conform to social, community and family rules as a prerequisite to normal adjustment and as a result of his own dependence. But as he grows, the parents should realize that obedience is justified only insofar as their knowledge and experience are superior to that of the child. To prevent intro-family conflict, situations requiring the enforcement of obedience should be, under normal conditions, reduced gradually to a minimum. Good habits, emotional balance, open mind, sociability, and to a degree independence of judgment are incomparably more valuable in adolescence than blind and unconditional obedience.

See: CONFORMITY, DISCIPLINE.

OEDIPUS COMPLEX. This term (adopted from the Greek myth) is employed to describe the love relationships of children of both sexes with their actual parents, parent-imagos or those who may become parent-surrogates to the child. During the early phallic stage of the child's evolution, unconscious desires for sexual satisfaction develop for the parent of the opposite sex. The super-ego accepts these conscious or unconscious phantasies as actual acts thereby causing a sense of guilt and a fear of punishment. The significance of the Oedipus Complex or as it is sometimes called Family Romance rests not only in its universal occurrence but also in the incest taboo of primitive and civilized peoples. It is a necessary stage in the normal development of the child. The complex has two roots.

(1) Child-parent situation and experiences associated with, and the result of, the child's infantile libidinal strivings.

(2) Racial experiences carried over

as inherited ideas.

The child expresses his Oedipus strivings consciously in his desire for various forms of physical intimacy with the parent of the opposite sex. In the unconscious the libidinal wish is represented by the incest drive. From this situation there develops a conscious and unconscious sensing that the parent of the same sex is the obstacle in the way of the desired gratification. Hostile impulses are manifested openly toward this parent while unconsciously the child imagines the killing of the rival parent and of replacing him with the loved parent.

Oedipus Complex in the boy: In its simplest form it arises from the infantile anacletic attachment of the child to the mother as nurse, which during the phallic stage results in her becoming the object to sexual impulses emerging at this time. While this mother imago is evolving, the boy's primary identification with father becomes centered upon taking father's place with mother. Father is thus felt to be an obstacle to the boy's attainment of this objective. The previous love for the father and the newly arising hostility (conscious and unconscious) results in ambivalence and conflict.

The normal dissolution of the Oedipus Complex is as follows: The unconscious ego, under pressure of castration fear, renounces or represses one part of the incestuous strivings, desexualizes or sublimates another part, while the rest of the libidinal stream moves on to its final zone localization at the late genital (or pubertal) stage of development. At the end of the infancy period the boy should feel only sublimated love or tender affection for his mother. Hostility towards father should cease with the relinquishing of the rivalry between them and there follows an intensifica-

tion of the primary identification with the father. During the latency period the sublimated affection should be extended first to the father and gradually to others in the immediate environment.

At puberty the Oedipus drama is re-enacted but this time on a primacy of the genitals. The libido, now in its sexual and desexualized aims, is directed towards exogenous love objects, thus establishing emancipation from the parents.

The Oedipus (Electra) Complex in the girl: The evolution of the girl proceeds along similar lines as that of the boy, until the girl's normal sexual curiosity leads her to the discovery of the anatomical differences between the sexes. At first there is a denial of the visual evidence which is followed by "penis envy." Her acceptance of this discovery forces her to regard her lack of a penis as either a lack of love from mother or castration for misdeeds. She may attempt to deny this by imagining herself as having an "Illusory Penis" but constant evidence of reality causes her to accept this and forces her into her Oedipus Complex. Where previously the girl's libido had been directed towards mother as love object, it is now redirected towards father as the new love object. The conscious desire for a penis soon becomes equated with the unconscious symbolic value, penis = child. Thus the girl at the height of her Oedipus Complex desires to receive a child from father. This engenders feelings of hostility and rivalry towards mother leading to ambivalence and conflict.

The dissolution of the Oedipus Complex in the girl proceeds slower than in the boy since the castration complex continues powerfully charged with libido in the unconscious and helps to prepare the girl for her subsequent sexual role.

For the individual's normal personality development the Oedipus Complex must prove a failure. An unsatisfactory resolution leads to personality difficulties in later love relationships.—S.Z.O.

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ONLY CHILD. See: OVERPROTECTION, PAMPERING.

ORGANISMIC AGE. The worker in child guidance frequently finds that it assists his understanding to convert a given score or measure to an age equivalent in order that he may make certain inferences about status and growth. Reading age and mental age are familiar examples. The same method of description has been extended to various physical attributes so that one may speak of a dental age, a weight age, a height age, a carpal age, and a grip age. In testing hypotheses of the growth of children as wholes, Olson and Hughes found it profitable to study the relation of the center of gravity of growth to the whole. To do this, growth values as of a given life age for a child were averaged and given the name "organismic age". Organismic quotients (OA/CA) have been reported as quite stable through the growing period. The more complete appraisal of the individual involved in the determination of organismic age has also been clinically useful in making practical decisions on such problems as classification in school where general maturity must be taken into account.—W.C.O.

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ORPHANS. See: ADOPTION, FOSTER HOMES.

OVERPROTECTION. The subject of overprotection is difficult to approach in any sort of factual manner, the process (and it seems best to use the term "process") being dynamic and descriptively intangible. It would seem to divide itself naturally into three aspects:

1. A description of the commonly observed overt behavior of both parent and child in an overprotected situation.
2. A consideration of the common composite emotional patterns of parent and child.
3. The implications for dynamic treatment.

The treatment of parents and children suffering in the overprotected situation cannot be considered in any detail. There is no specific remedy for overprotection. The type of therapy may differ according to the ideology of the therapist but will be for an emotionally ill-adjusted child, not for an overprotected one.

THE OVERT BEHAVIOR OF PARENT AND CHILD; The behavior of the parent: Does the overprotective parent meet the fundamental emotional needs of the child? These needs are three: (1) the need for emotional as well as physical security; (2) the need for sympathetic understanding; (3) the need for freedom to grow as an individual. The overprotective parent fails in varying degrees to meet these needs adequately.

The overprotective parent typically meets the child's need for security by fostering the child's dependence upon him. True, the child has a clutching security in his emotional dependence. But security and dependence are not synonymous. Security implies a stabilization of tendencies toward dependence and toward independence, a situation not true in overprotection. The parent makes the child dependent upon him, exercising a rigid control over all his actions. The child has no choice in the selection of clothes or food; he is told what to eat and to wear. His parent's word is best, even to manhood and womanhood. His homework is done for him when it is "too hard", his playmates and their games are selected, he is not allowed out by himself, at least, not off the front porch. The child's emotional orientation is around his parent. Loss of, or separation from, that parent cuts the only security he knows.

The overprotective parent typically has only mature standards to which the child must aspire. He must be a little adult, speak only when spoken to, prefer Sunday clothes and adults' company to making mudpies with the kids, make the best marks in school, neither use nor understand "naughty words", report everything he thinks or does even when a physically adult individual, and so forth. The picture is familiar. It violates every concept of objectively sympathetic understanding. The child is neither child nor individual. He is his

own parent's fetish, an object for the projection of their own desires.

The child wants freedom to grow as an individual in every sense of the word. He wants to establish his own personality, choose his own friends, make his own way, but fundamentally he wants to choose. Only through experiencing the good or bad results of his own choices can he learn. The overprotected child is not permitted this freedom. His parents do all his choosing for him—his clothes, food, games, books, school and, eventually, his husband or wife. Father or mother even tries to fight his fights for him. Fortunately, the man next door doesn't want a black eye because his son called the neighbor's son a sissy.

The behavior of the child: The overprotected child does not show any typical pattern of overt behavior as some of the traditional theorists would like us to believe. The "sissy" or "mama's boy" is only one type—a reserved and inhibited child who never gets into mischief, keeps his hands clean and his hair brushed, wants to play regular games but is unable to do more than stand and watch, gets good marks in school (at least in behavior) and obeys implicitly everything he is told to do. Other children will become extremely aggressive, dominating all situations; domineering everyone around them in a way that obviously shows how badly they need to establish themselves and feel secure. Yet an overprotected child is likely to develop "problems." One may become persistently enuretic. Another will stammer. Another will commit petty misdemeanors or become delinquent. The overprotected child will, in other words, show any of the evidences of the existence of an emotional problem, which form the basis of child guidance clinic referrals.

THE EMOTIONAL PATTERNS OF PARENT AND CHILD. The parent: The emotional pattern of the parent cannot be considered in isolation. No individual is free of the influences of his own emotional background. The seeds of overprotection may stretch back through generations of grandparents, each one violating the child's basic emotional needs. The child becomes the object upon which the parent projects his own needs and desires, the satisfaction of the parent's own emotional problems.

A parent who himself has had a restricted childhood determines that his children will have everything that is best for them, the parent having decided in advance what is best in terms of what he wanted (or still wants). The parent who had a childhood of deprivation lavishes upon his children all the expensive toys he can afford, insisting upon their being used. The parent whose marital experience has been unsatisfactory swamps the child under all his emotional force, needing someone dependent and investing his parental feeling with the power of inhibited sexual urges. Anything which gives the child freedom threatens the parent's false emotional security, striking deeply at the parent's own sexual needs. Attempts at more complete envelopment are inevitable. The parent whose own psyche is dominated by intense feelings of inadequacy as a result of repeated frustrations in his social contacts tries to protect his child from the rude jolts that are part of growing up. Every difficulty the youngster encounters is interpreted as a challenge and threat to his own self, activating intensely the overprotective responses. Such are only a few of the parental emotional problems that seek solution or satisfaction in the child, overprotecting him and probably perpetuating maladjustment for another generation or more.

The child: That the child's emotional pattern shows wide variation is obvious from the wide variety of overt behavior patterns. The direction of behavior, always an index of underlying emotional responses, depends not upon the single overprotected situation but upon the child's other emotional relationships, his experiences in school and in social contacts, his social and economic milieu, his physical constitution, etc. These factors together form the emotional complex that results in one or another type of overt behavior.

Unwise as it is to generalize, it is possible to describe some of the fundamental emotional components of the overprotected child. The child's insecurity may evidence itself to him in terms of fears that inhibit his actions. He wants to play football but can only stand on the sideline watching. He is afraid to get his clothes dirty, or that he might get hurt, or that he cannot play as well as the other fellows. A

child who reacts in this way is paralyzed so far as self-initiated activity is concerned, because he doesn't know where he stands and is consequently afraid. Another youngster may try to hide behind a superficial front of aggressive self-confidence, feeling underneath (perhaps more acutely) the same fear and insecurity.

The child inevitably feels that his parents do not understand him as a child and that they have little sympathy for his childishness. His wants and needs, seeming not sufficiently mature, are neither recognized nor acted upon. He soon feels hopeless about the situation and reacts by either becoming a being who automatically follows the course prescribed for him as a matter of course or by overt aggressive rebellion (unfortunately only infrequently successful).

Particularly keenly does the child feel the constant frustrating of all those tendencies toward freedom and the establishment of himself as an individual. The one who passively accepts the parental projection and identifies himself with the parent is relatively freer of emotional turmoil than his opposite. Emotionally he is stale. Another child, not accepting the projection at least at first, violently fights the tendency toward identification. His emotional life is chaotic, filling every day with fears, insecurity, uncertainty and hate. The latter child is reacting in a healthier manner for himself but will be a constant worry to those with whom he comes in contact. Unfortunately, the former child is commonly considered as presenting "no problem".

THE IMPLICATIONS FOR TREATMENT. The overprotected child cannot be considered as a special type for which there is a specific treatment. Such a child referred to a child guidance clinic must be handled as any child presenting an emotional or behavior problem. Treatment for both parent and child is essential. The old method of the classical psychological clinic or pediatrician of offering reams of advice on child management is singularly ineffective. Not only does it fail to touch the roots of the problem but it is often given to people who fundamentally do not want help, all their assertion to the contrary. The part-

icular approach will depend upon the ideology of the therapist or clinic. Basically the aim will be identical. The parent must be helped parallel with the child's treatment to effect some solution of his own problem. Frequently the major course of help with the parent is the creation of a real desire to change. The parent is, in other words, in need of help with his own problems. Such must be the focus in a truly effective approach. With the child, the course will depend upon the patterns the child exhibits. The passive youngster must, through interview, play or whatever technique the therapist uses, create within himself the latent aggressive impulses and then have the opportunity to project these upon the therapist. Once established and expressed, the child's problem has at least decreased in severity. With the aggressive child, the therapist presents a neutral person upon whom the catharsis of the aggressive tendencies can be projected without deleterious results. The establishment of close relationship and of subsequent security with the therapist is the initial step after which the course becomes

smoother.

It is essential to remember that treatment must be with both parent and child simultaneously. Otherwise there is little use in initiating the process. Finally, the aim of treatment must be the creation of a more stable and healthier balance between the fundamental needs of the child and the emotional needs of the parent.—R.L.S.

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See: PAMPERING.

P

PAMPERING. Pampering ordinarily means overindulgence to a degree which unfits the individual for the requirements of later life. What is to be regarded as pampering must obviously depend to some extent on the educator's conception of the sort of later life for which the child is being prepared. Spartan children were taught to endure an increasingly severe dosage of privation and pain, so that they might become accustomed to hardships, and hence, indifferent to them, in preparation for the pain and privation which would be their lot as warriors. Modern Germany has revived certain features of Spartan education. Children, boys especially, are trained to take pride in their hardihood and endurance.

In America, on the other hand, most psychologists lay less stress on the evils of pampering than educators of previous generations. Today, many feel that the danger of warping a child's personality by too much frustration is more serious and leads to more disastrous consequences in later life than any amount of indulgence.

There is, however, a real danger of doing so much for the child that he has no opportunity to explore and manipulate the world on his own initiative. He is thereby deprived of the opportunity of developing self-confidence and resourcefulness. Pampering in this sense can scarcely be called indulgence. Instead, it is one of the most distressing forms of frustration. The normal, healthy child enjoys doing things for himself. When first learning to walk, he may want a protecting hand to support him; but after he has learned, he will resent the offer of help. There comes a time when he does not wish to be fed. He wants to hold the spoon and feed himself. He should be allowed

to do so, and incidental spilling of food should be ignored. Dressing and undressing, likewise, and all the little routines of daily living are activities which the normal child enjoys mastering.

There are some mothers, however, particularly those unhappy in marital life, who lavish all their thought and care upon their children, waiting on them in numerous unnecessary ways, watching over them constantly, warning them away from real or fancied dangers, and interfering even in the child's play by solving all his problems. The child is given no opportunity to finish by his own efforts anything he has begun. Such treatment keeps the child feeling weak and helpless. It is likely to perpetuate infantile patterns of dependency.

If he is naturally weak or has any physical handicap, he is almost certain to accept his mother's verdict that he cannot get along without her help. He learns to undertake nothing by himself. The more his demands for help are gratified, the more these demands multiply. If the mother grows weary of servitude and seeks to escape, the child cries and whines to work upon her sympathies. If the weak, pampered child discovers that whining and pleading will usually get anything he wants, he is likely to use these devices throughout life as a means of securing help from other people. To the pampered child who thus remains a weakling, Fritz Kunkel gives the appropriate label "Clinging Vine". Often a somewhat sickly child discovers that he receives more attention and indulgence when sick than when well. Some neurotic symptoms may originate in this way.

A vigorous, healthy child is more likely to rebel against too much wait-

ing on. He is likely to insist upon doing things for himself. He may rudely resist his mother's efforts to dress and feed him, if she persists in these activities beyond the time when they are necessary. D. Levy finds this type of rebellion fairly common among children of overprotecting mothers. If the mother persists in her determination to "baby" a child who does not want to be "babied", she may interpret his resistance as negativism (q. v.), disobedience, stubbornness, etc. The mother may bring the child to the clinic, hoping that the doctor will help her force the child to obey, whereas the clinician's real task may be to free the child from his mother's smothering and restrictive overprotection.

If a child is superior in one or more ways, pampering may take some form other than "babying", for example, the child may be shown off to strangers excessively, his "cute" sayings may be repeated in his presence, or he may be given so much admiring attention that he forms an exaggerated estimate of his own talents and importance. He expects to be at all times the center of attention and admiration. To such a child, Kunkel gives the name "Star". The "Star" is conceited, fickle, and jealous. He competes desperately for first place in everything. He views every other child either as an admiring courtier or else as a dangerous rival. So long as he is admired, the "Star" remains radiant, charming, gracious; but anyone who withholds the expected admiration immediately falls into disgrace. Then the star reveals himself as touchy and peevish, easily offended, upset at trifles.

All children need much encouragement, particularly in the early stages of learning; but if parents, especially parents of only children, are to avoid bringing up spoiled little "Stars", they must resist the temptation to show their children off to strangers, to boast about them excessively, and to praise them too lavishly. Adverse criticism is of course equally hazardous to the young child, because it may result in discouragement. A safe middle ground is to show a friendly interest in the child's accomplishments, without calling too much attention to the child himself. Praise the work rather than the person.

One argument against giving the child too much admiring attention is that it may cease abruptly with the advent of a new baby. Sibling rivalry (q. v.) is most acute among pampered children.

Also, the child who has been excessively indulged and flattered in the home may have great difficulty in adjusting to school. In fact, all his classmates may be viewed as hated rivals.

Besides all this, psychoanalysts, notably Brill, have pointed out that too much prolonged affection on the part of either parent may cause undue conscious or unconscious attachment to this parent, and thus prevent the child from progressing normally in psychosexual development. Brill has examined hundreds of only and favorite children. He finds that the majority of only children do not marry. He also finds that the only son commonly lacks independence, self-confidence, and practical skill which the average boy acquires through competition with other boys. Often, too, the only boy associates constantly with grown-ups and does not learn to adapt himself to the society of his own age group. He does not experience the give and take of cooperation and competition, and reaches adult years without building up resistance to minor frustrations. The slightest depreciation may throw him into a fit of depression and rage lasting for days. He begrudges the successes of his acquaintances and is therefore shunned and disliked.

By no means all only children develop these unfortunate character traits. Parents of only children may avoid this disaster if they give the only child as much freedom to make friends with other children as the ordinary child enjoys, and are careful to encourage independence instead of trying to prevent or postpone it.—M.F.M.

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See: OVERPROTECTION.

PARENT-CHILD MALADJUSTMENT.

Over-domination by parents is a major factor in producing certain types of behavior problems; particularly those which can be classified under the head of the psycho-physiological behavior patterns, feeding, sleeping, and toilet habits. Many parents take the attitude that the child is a possession which must be forced into a pattern without respect to individual drives and capacities. These parents begin in infancy to force the child rather than to follow the needs which appear at definite age levels and the needs characteristic of their particular child. A certain amount of dominance is essential to the setting up of good habits. The hour at which he goes to bed and at which the child is fed and, within limits, the time at which he is sent to the toilet should be under parental control. Obedience to reasonable commands and all adjustments which make a young child a functional part of a family should be under the control of the parent, but both individual differences and individual needs should be allowed to play their part in the way in which all of these responses are set up. When the parent is constantly interfering with the child's activity, he takes on a pattern of dominance characteristic of the dictator in a totalitarian state. This may begin long before the child is able to walk or talk. The writer has seen parents who took away the child's toys and held them out of reach and who then became angry when the child cried. Equally often seen is the parent who tries to force the child to walk before the neuro-muscular connections were made; who takes the blocks out of the child's hand to build a better structure; who wakes him up to show him off and scolds him when he does not go to sleep at once after being put back to bed.

There are relatively few points at which a very young child can resist too much domination but no one can force the child to eat and keep the food down; to sleep when he wishes to stay

awake or to go to the toilet when placed in the toilet situation. It is through those three habits that the child dominates the parents in return. The more intelligent the child the more apt is he to learn that the parent may be disturbed by his, the child's, refusal to eat and sleep or by his failure to go to the toilet at the proper time and the release of bladder control at times most embarrassing to the parents. The preponderance of behavior problems in these three fields up to the age of five is an indication of the child's recognition of these three ways of demonstrating his power over his parents. By this it is not meant to say that dominating parents are the only cause of enuresis, anorexia and sleeping problems. On the contrary there are more than twenty causative factors operative in the production of each of these three types of problems, but too much control by the parents is frequently the main or the initiating factor.

FAILURE TO GIVE SECURITY. Insecurity in young children may be produced in a number of ways. It is a major function of a parent not only to see that this insecurity is not produced but definitely to work toward developing a sense of security at all levels from birth to maturity. Within a few hours after birth children begin to be secure or insecure. If the parents handle the child nervously; if, and this is important, either parent has resisted the birth of the child and does not really wish him; if the mother dislikes or indeed is not definitely in love with her husband or if she faces the process of rearing the child with a great deal of fear (this is particularly true at the present time under the strain of the war), the infant has already started on the path toward general insecurity, worries and anxieties.

If the parent treats the infant inconsistently, if for example she is delighted with his activities sometimes and is irritated by them at others, if she alternately is affectionate and indifferent, a pattern of insecurity is developed. It is not only inconsistent emotional adjustment toward the child which produces fears, worries and the like but also an inconsistent discipline. In fact the latter may become even more productive of patterns of all types. Children need to know that the

world in which they live is orderly, that they can count on approximately the same emotional response even though they must at times be punished for activities which are socially undesirable. Children need to do the same thing; at the same time and in the same place if they are to be secure. A parent who sets a child's table sometimes in the dining room, sometimes in the living room, sometimes in the bedroom; who sometimes has him eat from a tray and sometimes has him eat from a well set table will find that the child is uncomfortable and that good habits of eating are difficult to set up. Young children want the same stories told at the same time, in exactly the same way, the same plates and utensils on the table, the same place for different activities, the same time for food, sleep and rest. The resistance of any young child to changes in a game to which he has become accustomed or to changes in the details of a well-loved story are indications of his general resistance to rearranging procedures to which he has become accustomed. Far from producing stereotyped behavior by regularity in routine, children develop their basic habits to such an extent as to free them for new educational experiences, new mental contacts and other highly developmental activities. A young child in an unpredictable world must spend all of his time accustoming himself to new routines. This is always accompanied by emotional disturbances. A young child who has all of his physical habits well set up and knows what is expected of him develops those habits which he needs to the point to which he needs to pay almost no attention to them. He is hungry at meal times, sleepy at bed time, ready for toilet procedure, unless he becomes ill or unless through carelessness or for any other reason his expected routine is broken or interfered with.

COMPETITION BETWEEN PARENTS FOR THE AFFECTION OF CHILD. In a civilization such as our own in which the position of the child has been magnified out of all proportion to general family needs and functions, parents tend to compete for the major place in the child's affection. In order to win in this most undesirable type of competition the parents bribe the child by

too many and ill considered gifts. One of the writer's cases, a three year old child, could count on receiving from the father every night some new toy or gadget. While this might and would cause the child to look forward to the father's return, it over-crowded his toy cabinet and over-stimulated him since he did not have sufficient time to become accustomed to one toy and to experiment with its uses before another was given to him. Poor educational practice as well as poor emotional set develops from this situation; and habits of emotional response are based on the wrong type of stimulation. The individual who looks forward to the coming of a loved one because he counts on presents from that individual develops a habit of giving affection only when paid to give it. Psychologically this is one of the most dangerous of mental sets since the satisfaction of affection by the response which comes from the loved object is the desired end not the amount which one can cajole or demand from that loved object. Not only will poor habit patterns be substituted for more desirable ones but the whole security of the child is interfered with. Young children are secure when the parents obviously love each other and have confidence in each other. For one parent to question another is to upset young children; for one parent to criticize another or quarrel with another is disturbing in proportion as the questions of the quarrel are serious. Competition for the affections of the child involve both quarreling and questioning. Not only is this true but in order to secure the affection of the child each parent attempts to break down the discipline enforced by the other. Your mother is too hard on you" or "your mother expects too much of you" are examples of this type of activity, as is also "I will let you do this but you must not tell your father; we will do it and he will never find out."

FORCING THE CHILD TO LIVE UP TO STANDARDS BEYOND HIS CAPACITY. Many parents, either because of pride in the child or because they feel that unusual success or achievement on the part of children reflects glory on the parent or for some other reason, try to force children beyond the limits of their age and physical strength or be-

yond their intelligence level. There is no factor more productive of insecurity and resulting behavior problems than the feeling that the individual can never live up to what is asked of him. In infancy the parents may try to force the child to talk. They may work for hours until the child flies into a temper tantrum or drops into a sound sleep to protect himself from a world in which he is not succeeding. Parents attempt to teach children the names of colors one, two or even three years ahead of the time at which the names of colors are learned normally. They try to teach them to be polite long before the concept of politeness is developed. At school age they try to push them more than a year beyond their chronological and mental level or try to force them to achieve grades which are well beyond their capacities. If the father or mother has been a leading student, all of the children of the family must also be leading students. If the father or mother has been brilliant, in mathematics, English composition, or any other activity, all the children of the family must be brilliant and to an equal degree. Even the most superficial knowledge of the transmission of hereditary capacities would make it clear that no such equal inheritance by all of the children of the family is possible. Parents should reconcile themselves to the fact that their children will not be alike and that they will not inherit parental characteristics to an equal degree. Even identical quintuplets are not identical in appearance and capacities though they are similar.

A third area in which parents attempt to force children to accept patterns which they can not approximate is their attempt to make their children carry out all of the parents' ambitions not realized in early childhood and youth. All of these attempts to dominate the child and force him into a pattern which is not his own tend to result in behavior problems of all degrees of seriousness. In infancy and early childhood they are, as we have said, almost always productive of problems in the field of the three habits which have a psychological basis, namely eating, sleeping and toilet habits. They may also produce such behavior problems as stubbornness, temper tan-

trums and general emotional instability as well as defiance to authority which in later life may transfer to authority in general almost to the same degree as the earlier authority of the dominating parents was rejected.

PARENTS WHO DO NOT WANT CHILDREN OR WHO RESIST THE BIRTH OF A PARTICULAR CHILD. There is nothing more productive of difficulty of every kind than the feeling by the child that he is not wanted. Many parents develop this feeling in children through thoughtlessness or through injudicious teasing. There are also parents who actually do not wish to have children or who did not wish to have this child at this particular time or who felt that they already had a sufficient number of children before this child was born. Immediately after birth, and perhaps in intra-uterine life, the child is aware that his parents do not wish to have him. Every individual whether adult, youth or infant needs the feeling that his family wishes him, that he is accepted and that no one can take his place. If there are two boys in the family and a third boy is born, it is often necessary to assure him that he is wanted and that his parents were not wishing for a girl when he was born. If on the other hand the family is all girls it is frequently necessary to assure one or all of them that the family wanted them and did not wish that they were boys. A child who feels that he is not desired will, either because of general insecurity or resentment, find out what disturbs the parents most and repeat this behavior indefinitely. The fact that children are capable of muscle reading much as are animals probably accounts for the ability on their part to find out which behavior is most disturbing. One of the first questions in an interview is intended directly or indirectly to determine whether the child involved was or was not desired.

LACK OF EMOTIONAL SATISFACTION IN PARENTS. Parents who have no deep and satisfying relationship between themselves are apt to seek in the parent-child relationship all of those satisfactions which would have been possible had they had a normal husband-wife relationship. They call the child by the names which lovers

employ for each other, they fondle and kiss their children and even use their children as an outlet for their feelings. A case of the writer's, a girl of nine years, was a witness at the quarrels between her father and her mother. Her mother woke her up night after night to go on her knees by the child's bed and tell all that she had suffered from her husband. Not only has this produced behavior problems in this child during the school period, among these stealing and lying, but the child has been conditioned against marriage.

In a good family relationship the affection between the mother and father transcends all of the affectional relationships between the parents and their children. This is the best type of family relationship in as much as children who feel a strong and steady affection between their parents are themselves secure. Parents may make many mistakes in discipline and in other respects, and the child will develop few or no behavior problems, if the love relationship between the parents themselves and between the parents and their children is normal, strong and steady. This is the first prerequisite to a secure childhood.

PARENTS WHO FAIL TO MATURE. The old form of patriarchal civilization made it possible for a large number of the individuals within the family to remain children emotionally. Many of them remained in the stage of self-fixation characteristic of the child under six months of age. Some remained fixated on their parents, either the mother or the father. Others remained in the gang stage in which the highest emotional satisfactions are received only as a member of a crowd.

Since the patriarchal period has just passed there are many parents who are immature. Immaturity on the part of the parent makes him behave toward and with the child as a child with other children. When the three year old disobeys, he and the parents "fight it out". In fact, their whole relationship from birth to maturity or until the child becomes more mature than the parent will be that of quarreling children. Children need beyond everything else to count on the fact that their parents are wise as well as kind. They need to feel the protection of individuals older and wiser than they are.

Where this is lacking all sorts of fears develop. These may even lead to anxiety neurosis.

Still worse is the parent previously discussed who can not meet his child with a parental affection but meets him on the basis of a lover. In order to mature successfully the child must have mature parents. Failure to mature is always accompanied by maladjustments unless the child happens to be of the peculiarly stable type to whom difficulties only make for stronger and better character development.—A.H.A.

PARENT-CHILD RELATIONS. The survival of the human infant depends on its care by others, and in our society this care is organized in the family under the responsibility of the parents. Consequent on this fact the relation of a child to its parents is extremely close and intimate due to the necessity for caring for the child during the long period of infancy. Even so, there are wide variations in the kind of care, nourishment, protection, and training which parents give to their children. These variations have profound repercussions in the emotional security of the child and in the direction which his developing personality will take. The influence of parent-child relations on the development of personality has only been appreciated in recent years as the result of the discoveries of workers in the various fields of psychoanalysis, child guidance, and child development.

Perhaps the deepest need of the infant may be generalized under the heading **SECURITY**, which is provided by the activities of the parents primarily in feeding the child, and also in clothing, bathing, and providing its shelter. At the first of life, the surest token of this security is affection and cuddling of the child through physical contact. Dependence upon the parents for security persists throughout childhood and, in our culture, even through a considerable part of the adolescent period. Variations in the regularity and adequacy with which parents provide this security are reacted to by appropriate variations in the response of the child, and these variations contribute to the unique character of his personality.

Parents also have the task of assisting the child to mold his behavior and attitudes to fit his cultural group, and this requires some control by the parents in the modification of child behavior. This is frequently known as child training or discipline, using methods of encouragement or of repression and punishment. Variations in these methods of control also serve to bring about variations in the child's responses and hence in his personality.

As experience in child guidance accumulates, the development of personality is seen more and more to be a direct result of parent-child relations. There seem to be periodic shifts in the emphasis given to nature or nurture in explaining the antecedents of personality and the process of development. The discoveries of the great biologists of the nineteenth century indicated the mechanisms of biological inheritance, and at the beginning of the present century it was fashionable to speak of instincts and to look to heredity as an explanation of personality. But clinical and experimental studies of growth in infancy show that much of personality is molded by the early experiences of the child, and that the most important of these experiences cluster about the relations between parent and child.

Some have argued that parent-child relations cannot possibly account for even a small part of the development of personality, and the differences in personality of children in the same family are pointed to as one source of evidence. The argument runs that in the same family the environment is to all intents and purposes the same; therefore, differences in the personality of the children must be largely attributable to heredity. However, that children in the same family are in the same environment is a gratuitous assumption. Close observation would indicate that parents respond to each child in the family differently, according to the age, sex, order of birth, and physical and mental characteristics. It would seem as though each child plays a unique role with regard to the parents' needs, and thereby assumes a different relationship to his parents.

Parent-child relationships have at least two dimensions—the demand on parents for SECURITY and for AU-

THORITY. These two aspects of parent-child relationships are frequently in conflict. Both of these demands are important. The first is basic in the establishment of sound emotional attitudes; the second helps the child grow into adult society. Many parents have difficulty in their authority relationships with their children. They complain that the children are disobedient, disrespectful, stubborn and resistant, and react poorly to discipline. Not infrequently a parent of a young child will visit the nursery school and observe the methods used successfully by the teacher, but will fail in an attempt to apply these same methods at home. The difficulty here arises in the fact that parents and children are emotionally involved with each other, and that it is extremely difficult for a parent to use the methods of the school with the same impartial objectivity. Because their relationship is one to which they respond with considerable emotion, many parents find that they cannot give a child a feeling of emotional security when it becomes necessary for them to exert their authority.

Parental attitudes toward children are difficult to study by the usual methods of psychological inquiry and observation. It is next to impossible for an outside observer to learn what goes on in the bosom of the family. Parents do not wish to reveal their faults to the outside world, and their relationships with their children are impeccable when they may be under public scrutiny. Parents best display their true attitude and feeling on getting up in the morning, during the period of dressing, at the time of going to bed, and also at meals. It is for this reason that ordinary reports on parent-child relationships are untrustworthy. A mother may have the reputation of being extremely devoted to her children because, when friends and relatives are present, she expresses herself most affectionately; whereas in the intimacy of the family she may express hatred and intolerance.

VARIATIONS IN PARENTAL ATTITUDES TOWARD THEIR CHILDREN. The principal elements in parent-child relationships are: (1) love and hate, (2) control and authority, (3) punishment, (4) neglect, (5) elevation or depression of the child's ego, (6) parental

anxiety, (7) projection of parental ambition on child, (8) various combinations of parental attitude. Most of the foregoing discussion is in terms of parent BEHAVIOR and ATTITUDE toward the children. Perhaps parent-child relationships have their most fundamental character in the FEELINGS of the parent, whether they be love or hate. The casual observer probably believes that mother love is the normal and typical attitude of parent toward child. The degree to which parents hate their children is probably not commonly appreciated. In child guidance clinics it is very common for parents to express negative feelings toward their children. While it might be expected that parents whose children present problems might exhibit negative feelings, evidence is accumulating that every parent on some occasions and to some degree feels annoyed and out of patience with his child. This attitude when it tends to outweigh the love feelings of the parent toward the child is called REJECTION. The course of the parent's feeling toward the child is all important in determining the child's emotional security and in influencing the development of personality. All the evidence points to the fact that genuine love by the parent gives the child security and helps the child to develop a stable and socialized character; whereas parent hate of the child arouses aggression, encourages instability, and leads to unsocial behavior.

Parents also vary in the degree and mode of control and authority which they wield. On the one hand, there is the parent who exercises no control and gives the child complete freedom. At the other extreme is the parent who exercises a high degree of restrictive authority. Neither of these two extremes is best for child development. The child who suffers from too great laxness in parental authority will fail to learn the behavior expected by society, while the child who is under too great parental control may develop either resentment and hostility to authority, or may become extremely docile and subservient. The best results are obtained by a judicious mixture of granting the child freedom and exercising firmness when the occasion demands.

A third variable in parent-child rela-

tionships is punishment. A certain amount of punishment is inevitable in the control of the child. Even though this may be very mild and on the whole benign, in psychological experiments merely saying the word "wrong" to a subject has been termed punishment, and any method by which the parent shows his displeasure with the child and which causes the child pain (physical or mental) may act like a punishment. In general, it is agreed that, while punishments are sometimes necessary in order to protect the child from danger, on the whole punitive parent-child relationships are not constructive, and that children develop more satisfactorily under the stimulus of encouragement than they do under the inhibiting influence of punishment.

A fourth variable in parent child relationships is the tendency to give the child care and attention, on the one hand, and to neglect the child, on the other. Here, too, a middle ground is to be preferred. Children can be harmed by oversolicitude on the part of the parents who, by depriving their child of normal frustrations, keep him infantile and fail to offer sufficient stimulus to development. On the other hand, the rejecting mother who neglects her child is threatening his emotional security, and this attitude is likely to arouse traits of aggression and hostility.

The fifth variable in parent-child relationships is the tendency of the parent to elevate or deprecate the child's ego. On the one hand, the parent can praise the child and show his pleasure in and appreciation of the child's performance and achievement. On the other hand, the parent may severely criticize the child and deprecate his accomplishments. The best results in child development are to be found in an atmosphere of encouragement and appreciation.

The sixth variable in the parent's attitude towards the child may be found in the parent's tendency toward anxiety. The stable parent will have a stabilizing effect on the child. The anxious parent, on the other hand, will communicate his anxiety to the child, and will tend to make the child fearful or inhibited.

The seventh factor which is frequently found in the parent's attitude

toward the child is the parent's projection of his own ambitions on the child. A parent frequently is disappointed in fulfilling some of his childhood ambitions. He may have been unable to go as far as he wished in school, or have been thwarted in his social or love relationships. Perhaps he has failed to climb as far as he aspired on the vocational ladder. Parents sometimes attempt to realize these unfulfilled hopes by projecting their ambitions unto their children. If this is done in the spirit of encouragement without too much pressure, the results may be constructive. On the other hand, as parents attempt to force their children to achieve their goals. It may result in the loss of the child's ambition and his adoption of an attitude of indifference.

These attitudes may be present in different combinations. One parent, for instance, may exercise strict control of a child, while the other parent is lenient. One parent may be extremely punitive, while the other parent is affectionate and reassuring. Children almost inevitably suffer from inner conflicts when there is a conflict in the attitudes with which they are treated by their parents.

These attitudes on the part of the parents may also vary in the way in which they are openly or subtly expressed. A common state of affairs is for the parent to feel underlying hate and hostility to the child which arouses the parent's guilt. Since none wishes to think of himself as a bad parent, these hostile feelings are partially repressed, and the parent adopts an overt attitude of overprotection and overindulgence toward the child. The child responds to the repressed as well as to the expressed attitude. Overprotection or overindulgence usually contains the hostility as well as the professed feeling of love. A parent may hedge a child about by so many restrictions in the name of health and safety as to severely deprive the child of freedom in other ways and to make life miserable for him. Overindulgence as a way of being good to the child may harm the child by making it difficult for him to mature or by causing him to adopt anti-social ways.

VARIATIONS IN CHILDREN'S RESPONSES TO THE ATTITUDES OF

THEIR PARENTS. Children respond to the attitudes of their parents in a variety of ways, some of which will be mentioned here by way of illustration. They become more or less aggressive to the extent that they are frustrated by their parents, either by control which is too severe, or by fear of the loss of their parents' love. Both of these attitudes are variations of parental rejection.

Children may develop psychopathic tendencies—that is, asocial behavior without the usual feelings of guilt and conscience which most children have when they have done wrong—when parental control and direction are inadequate. This occurs under two quite different conditions. On the one hand, psychopathic tendencies are generated in families in the lower economic levels where there is extreme neglect and failure to provide proper controls. On the other hand, psychopathic tendencies may develop in wealthy families where the parents are too much engrossed in their own pursuits to give their children proper attention.

Children vary in the development of independence and self-reliance. On the one hand, parents who are overprotective and oversolicitous of their children may hedge them about with so many precautions and do so much for them that they prevent them from growing up and developing properly. Children who have developed the greatest amount of independence and self-reliance are usually those who are given a considerable amount of freedom of action coupled with support when it is needed.

Parent-child relationships are responsible for fears, and tendencies to be withdrawing and seclusive. These tendencies may be a response to the lack of security in the parent-child relationships, and also, in part, to extremes in parental control and authority. Children may respond to the dominating parent by fear and seclusiveness, but they may also respond in similar fashion to an inadequate amount of parental control.

Traits of submission or dominance are fostered by parent-child relationships. Children frequently react to the domineering parent by adopting attitudes of submissiveness and humility. On the other hand, the child easily senses insecurity and anxiety in his

parents and unfeelingly may take advantage of them by insistent domination.

Feelings of adequacy or of inferiority and inadequacy are traceable to attitudes that parents take toward their children. The parent who admires the child and speaks well of it is helping the child to think well of itself, whereas the child who receives constant criticism or reproach and the threat of loss of love is the one who in later life is tormented by feelings of inadequacy.

Social characteristics are determined by early parent-child relationships, which help determine whether in later life the child can be characterized as friendly or unfriendly, honest or dishonest, truthful or untruthful, and the like.

Children who receive a considerable amount of sexual stimulation through fondling, who are used to satisfy the pleasure of their parents, may become sexually precocious; while, on the other hand, the inhibited and prudish parent may inhibit lifelong sexual expression by zealous overstrictness. Later variation in a sexual expression can usually be traced to early relations between parents and children.

Sexual characteristics depend on the characters of the parents and the way these are expressed toward their children. A boy with a strong, masculine father and a loving and generous mother will tend to develop a masculine character; whereas if the mother is dominant and authoritative while the father tends to be somewhat passive, the boy will tend to take on feminine characteristics. In general, a child tends to identify with the parent who by his assertiveness and domination tends to arouse the greatest amount of hostility and aggressiveness in the child.

The variations in parent-child relationships and the consequent development of the personality of the children are infinite in their complexity.

DYNAMIC FACTORS IN CAUSING PARENT ATTITUDES. Parent attitudes are derived from immediate factors in the family situation, and also from personality factors coming from early childhood in the parents.

Of the immediate factors, the one of probably the greatest importance is the relationships between father and

mother. If these relationships are harmonious and sexual expression adequate, the feelings and attitudes toward the children are generally more constructive than when there is some imperfection in the marriage relationship.

Economic factors help to increase the tension in the home, which will react on relations between parents and children. David Levy has recognized the influence of a number of traumatic factors, such as the birth or illness or accident, either to the child himself or to a previous child, in making parents overprotective. Where a child is subject to an unusual hazard in the parent's fantasy, there is a tendency for the parent to overprotect it.

The attitudes of parents toward their children also owe their origin to personality factors which the parents bring down with them from their own earlier childhood experiences. It has been found, for instance, that the attitude which the parent adopts toward a child is frequently a displacement of the attitude which has been held earlier toward the parent's own parents or to their siblings. The father, for instance, may display to his son hostility which he at an earlier age held toward his own father, but never thoroughly worked through. In the second place, parent attitudes toward their children are projections onto the child of attitudes which the parent unconsciously holds toward himself. If a parent feels guilty and unworthy, rather than admit these feelings toward himself, he may project them onto his child, and be extremely harsh and punitive for characteristics which he finds in the child which he is unable and unwilling to recognize in himself.

Some attention has been given to the modification of parental attitudes in child guidance work. If parents are not emotionally disturbed and if their relations with their children are within the normal range, they can be helped to modify their attitudes by one of the more direct didactic approaches of advice, suggestion, and encouragement. This has been successfully accomplished in parents' discussion groups. As a group of parents discuss their problems, they are encouraged to see that these problems are not unique, and that others are struggling with the same concerns. Sometimes parents learn

suggestions from one another on successful methods of child care and management. It has been found that the normal parent profits a great deal by being able to observe the way in which children are handled in the nursery school and on the playground. The best results are obtained, perhaps, when there is an opportunity to follow this observation with a period of discussion.

When a parent is disturbed or anxious, didactic methods of counseling become less effective. In such situations some sort of psychotherapy as "attitude therapy" or "relationship therapy" is called for. The disturbed parent seems to be handicapped in following advice or suggestion by the compelling nature of his own emotional needs. In relationship therapy a parent is given strength and encouragement to accept himself with all of his hostility and hate through the acceptingness and permissiveness of the relationships between himself and the counselor. Little by little the counselor helps him to sense the true depth of his feelings and, as he learns to face them, they lose their grasp on him. Relationship therapy usually follows the pattern of psychoanalysis, but differs from it by (1) putting the emphasis on the feelings aroused in the counseling relationship itself, (2) failing to uncover the deeper and more infantile unconscious trends, (3) less frequent contacts so that the transference is less intense.

The relations between parent and child are not necessarily unalterably determined by the personality of the parent, but are always susceptible of becoming constructive under the proper guidance. Every child has the right and the possibility of growing up in an atmosphere of security and encouragement.

Our understanding of the significance of parent-child relationships has grown out of the psychoanalytic movement, and particularly the contributions of Sigmund Freud. However, although Freud hinted at the presence of these relationships, he failed to note their variations because he was mainly concerned with the general laws of dynamic relationship. The precise nature of parent-child relationship has been worked out in large measure through the experiences of child guidance clinics, where both parents and children have been

studied and the influence of the parent on the child could be clearly observed.—P.M.S.

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PARENT EDUCATION AND PARENTAL

ATTITUDES. The aim of Parent Education has been defined by J. D. Abbott, an eminent leader in the field, as "furnishing parents with sound principles which they may apply to their home and to their family situations . . . endeavoring to change the attitudes, the methods, and the practices of parents in dealing with the problems of child training so that we may insure to them a better understanding, more effective practices, and greater satisfaction in their tasks . . . We are trying to encourage through Parent Education an open-minded searching attitude on the part of those people engaged in bringing up children. The information parents have received has been on a verbal scale and on an intellectual basis. . . . We want to teach them how to apply material to the care of their own particular child and to give them an understanding of their child's impulses, desires, and needs."

Parent Education, as the title implies and as defined above, is an informative endeavor but one that is too frequent-

ly undertaken with insufficient regard for the many and varied emotional factors present in a parent in his relationship to his child—factors that are not always modifiable by merely intellectual approaches in the form of laying down pedagogic principles of child care.

Educating parents would appear to some to be a relatively simple undertaking, particularly in those situations where one finds in the parent both intelligence and an eagerness for learning; but, contrary to prevailing opinion, the simplicity of the undertaking is more apparent than real since intelligence and a desire for learning alone do not guarantee success in an educational program. Emotional factors and the resulting attitudes determine in no small measure the results to be achieved.

As one peruses the prolific publications relating to this relatively new field (Parent Education), one is very much aware of the emphasis put upon intellectual aspects and teaching techniques with very little consideration being given to emotional factors inescapably present in a parent-child relationship and the fact that an academic approach may not realize its purpose.

One has frequently observed situations in which much of the educational work has consisted of an intellectual presentation of factual material to parents with complete disregard for existing emotional problems and hampering attitudes which may completely nullify the most carefully planned educational program. It is dangerously easy, particularly in group situations, for one to give advice while in utter ignorance of possible emotional turmoil in a parent. The following case of a young mother, a member of a Child Study Group—she was a college graduate with a doctorate degree in dietetics—exemplifies the situation. At the meeting she asked a simple question regarding the value of cereals and the advisability of urging a child to partake of them. She approached the lecturer at the close of the meeting and asked if she might consult further about the question. The salient features here centered about this woman's undue feelings of concern and responsibility for her sister's child, whom

she had adopted—feelings of defeat in the matter of establishing proper eating habits—as well as a marked sense of failure in her own marital relations. This mother had joined the group with a well-formulated plan as to what she hoped to obtain and yet had failed, partly because of her own problems and partly because of lack of discernment and training on the part of the leader and the latter's inability to understand or cope with the emotional aspects which represented the prime causal factors responsible for the child's problem and the mother's concern. Here was a parent intellectually superior and sincere in her search for help, but rendered incapable of benefiting by reason of emotional blocking. A purely intellectual approach to such a situation is both sterile and unavailing. This woman typifies many who show no outward evidence of maladjustment and who, because of concern and perhaps confusion regarding proper methods in child training, are attracted to mothers' group in the hope of receiving assistance which in most instances is not realized since they are unable to assimilate and put into practice the instruction given.

Group education, which of necessity must be factual and pedagogic in its presentation, is futile and inadequate for such parents and may do more harm than good in that it accentuates the parents' already existing sense of failure and adds to their confusion.

Too often one assumes that, because a parent is intelligent, she will inevitably profit from a program of Parent Education. Many times a parent can comprehend a fact intellectually but fail completely to put it into practice because of lack of emotional balance. Let us take for example the mother of a 4-year-old child. The latter had been referred to the writer because of a problem of enuresis. The mother of the child was an intelligent girl, who had taught school before her marriage and had continued in her academic interests. One of her favorite diversions was participating in group discussions conducted in a mothers' club to which she belonged. This girl, in fact, had written and presented two fine papers to the group on problems related to child training. The mother, in presenting the case to me, stated

that, although the child had been carefully appraised by the family physician and no organic factors found, she was certain that persistence of the problem was symptomatic of a physical disorder and added that she had not only faithfully carried out instructions but had also read a great deal on the subject. Despite this, however, she had failed completely to obtain improvement. One of the most conspicuous features in the case was the mother's undue anxiety about the child's habit, the reason for which was readily understood when one learned about the family background. The mother's father, two sisters, and her first child all died of what had been termed "kidney trouble." An emotional perspective in the mother toward the seriousness of the problem of enuresis would not be at all surprising here. She naturally assumed that her child's difficulty related to the family background and that it portended a fatal illness. Now she was an intelligent woman who had made a sincere attempt to assimilate and put into effect suggestions she had both read and heard in her group contact, but was unsuccessful because of her own personal problems. Her failure to realize results increased her sense of defeat and, at the same time, further complicated her distorted attitude toward the total situation. Persistence of the problem, as well as the mother's attitude, could not be explained on an intellectual basis, nor by an unwillingness on her part to accept help. One found here a complex emotional difficulty that never could be reached or modified by an academic approach. One of our fallacies in group education is that we sometimes take too much for granted and presuppose that most of the members of the group possess emotional balance, objectivity, and attitudes conducive to ready acceptance of and putting into effect whatever principles of child management we may present to them.

It is important that we fully appreciate the fact that general information delivered without accurate knowledge of all the factors existing in a given situation—a practice sometimes utilized by zealous group leaders—may be misleading and harmful. This is illustrated in the following occurrence observed in a visit to a Child Study

Group. During the question period following a talk given by the group leader, one of the mothers discussed the behavior of her subnormal boy, discrediting what she considered as unjustifiable complaints made by relatives and neighbors about the boy's impulsive and troublesome activity. The pattern of behavior that she described was characteristically that of a preschool child. The group leader, not knowing the mother nor the child and without inquiring for further details, particularly the age of the boy, expressed the opinion that he was passing through a normal phase of his development and advised the mother to disregard the unfavorable comments and adverse criticisms, stating that he would "outgrow" it. Actually, the boy was a seriously retarded child of 11 years, whose limitations the family physician, the writer, and relatives had valiantly attempted to have the mother understand, as well as his need for placement and special training. This unthinking advice given by the leader, while applicable perhaps to a preschool child, was certainly incorrect and misleading for this particular mother, and served to strengthen her vain hope that time would solve the boy's problems and that he would eventually become a "normal child." It reinforced a destructive attitude in the mother that had operated for several years to the detriment of the child and the other children in the family.

In any educational undertaking, we usually think of three fundamentals as being indispensable for success: 1. subject matter; 2. qualifications of the instructor; and 3. (a point which should really be considered first) the psychological make-up of the individuals to be educated. During recent years in the field of Parent Education, suitable programs have been discussed at length, as well as the matter of securing qualified leaders, but comparatively little attention has been addressed to the psychological aspects of those individuals comprising the group. The possibility of the presence of personal problems or handicapping emotional attitudes, and the fact that these would serve as serious obstructions to an educational effort, are realities too often unappreciated or minimized. Much thought has been directed to such

own problems, it is impossible for them to obtain an objective and constructive attitude toward their children's difficulties.

Because of the many and varied emotional factors inherent in a parent-child relationship, it is obvious why a presentation of factual material as a form of Parent Education may not be availing. It is only when we think in terms of attitudes and understand their deeper implications that we shall be able to make a worthwhile contribution to a parent in his job of rearing children.

Emotional sets and personal problems of parents are not reached or altered in a single course designed in a formalized, schematic routine, comprising a prescribed amount of factual data, for parental emotional patterns have been in the making over a number of years and are so interrelated and complex that it would be folly to hope to rebuild them in a single course or to impart to the parent information that will enable him to reconstruct his own emotional attitude toward his child.

The importance of parental attitudes and their effect on children's behavior needs no further emphasizing, and the success of a program in Parent Education will depend upon our awareness and some understanding of the attitudes in those to whom we are imparting information. One of our tasks then is to find ways and means of understanding parents in the light of parental attitudes rather than merely thinking in terms of subject matter, children's behavior, and how to deal with it. Inner harmony, emotional balance, and maturity, together with a parent's understanding of himself, are of decisive importance if he is to succeed in his efforts to provide children with intelligent guidance and opportunities for wholesome personality growth. These requisites far outweigh in importance any factual material given parents as an aid to achieving the desired goal, the goal being successful guidance of children.

Let us strive to improve the effectiveness of our group efforts in Parent Education by facing the limitations imposed on all group situations, and appreciate the difficulties attendant in

dealing with attitudes in such a setting and to this end provide the leaders with a knowledge of resources where a member of the group presenting a need for individual guidance may be referred and find access to more specialized and intensive assistance. Such a steering service represents an essential part of the leader's responsibility to parents.—O.A.C.

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PARENT-TEACHER RELATIONS. One important reason why the present parent-teacher groups do not achieve their goals is that the more aggressive parents who possess confidence born of wider information are more active than those whose timidity springs from awareness of their own lack of knowledge. It is the first group that sets policies, stimulates discussions, etc., but the whole program of a formal organization is successful only insofar as the second group of parents is brought into the active field.

It is by now an accepted fact, almost a cliché, to say that the best results are obtained when there is complete parent-teacher cooperation. Educators, parents, and thinkers in the field are in complete accord on this point, but specific, concrete suggestions for obtaining this desirable end have rarely, if ever, been stated in speeches or writings.

In smaller communities, a deeper insight on the part of the teacher into the child's problem is more easily possible than in a larger community, where pupil-teacher contact is limited to the classroom, while the parent-teacher relationship may consist of an occasional note sent home with the pupil. Something must be done to develop this valuable association for the larger communities. This can, however, be achieved even today with a little effort and a clear view of purpose, and with no more energy and time than are constantly being expended by parents and teachers in attempting to

but failing to solve these problems.

The proper steps taken by parents and teachers together to bring about a better understanding of the child and his problems will almost without exception yield great beneficial results. The earlier in the term or semester the teacher gets to know the child intimately, the better. How many teachers, having failed throughout an entire term to obtain satisfactory results from their teaching of certain pupils, experience regret at the separation? The answer is, "Many," and probably for every teacher, "Often." This is not because the teacher has changed her method of approach, or that the child has changed or matured (though these factors may play a part), but merely that they have now learned to understand each other, particularly the teacher the pupil. If it were convenient to have the child continue under this teacher's guidance, the benefits would progress geometrically. No one can, or does, dispute the advantage of having this condition obtain. The parent plays an important role in establishing this understanding on the part of the teacher. The difficult and unco-operative child is particularly in need of understanding by his teacher, and it is here that the parent can be of great service. But the teacher must take the initiative. A mother may or may not be capable intellectually and emotionally of studying her child objectively, or of consistently adhering to a course of action objectively decided upon. The effect on the child of an understanding teacher and a co-operative parent will be to integrate his life, rather than departmentalize it. One could then expect desirable teachings at home to be transferred to school life, those of the school to home life, and both to be reflected in his life outside those two spheres, resulting in higher standards being set by the child for himself in his own acts and choice of associates. This is not idealistic and wishful thinking; they are real goals that can be attained. Early results may be slow to manifest themselves and difficult to measure, but many attempts and the adoption of a friendly, though scientific, attitude on the part of the teacher will be fruitful. The ultimate beneficiary will be the child, and subsequently, society itself.

This plea for friendly, personal contact is not to be interpreted to mean that the teacher is to meet forty parents on the first day of school. It does mean that, where a child shows signs of maladjustment or uncooperativeness or poor scholarship through lack of interest or effort, a meeting with one or both parents is indicated. One should not wait until a crisis arises. The tendency at present is to use this meeting as a last resort, when the child has already become resentful, fearful, or defiant, and after an interchange of notes has heightened the tempers of all concerned.

But, whether the crisis has arrived or not, the teacher, who is less emotionally involved than the parent whose pride in her offspring makes objectivity more difficult, should remember in approaching such a conference that parents and teachers have the same goal in regard to the pupil. The teacher and the parents are concerned with the pupil's success at this phase of his education. Beyond that, the parent is concerned with the child's future, and the teacher with the child as a future member of society, for which the teacher assumes responsibility when she enters this honored profession.

The first meeting between parent and teacher will set the tone for all later contacts. This is true of all social intercourse, not only the specific one treated here. Shall the opening remarks of the teacher be an abrupt, "Robert is quite impossible!" or, "How do you do, Mrs. Jones? I am so happy to meet you! I know that you are the one person who can help me with Robert?"

The teacher who is really superior will not display it in a manner that can breed only antagonism. The above remarks are not flattery, but, if analyzed, will be seen to be about the only honest thing the teacher can utter at the moment. The parent is the one who can help this time; the teacher, hence, should be happy to meet her; and common courtesy permits a "How do you do?" without carrying the implication of fawning.

A discussion of the petty things a child does at home, his interests, his remarks, his "cuteness", and his naughtiness will all come to light gradually, and they will shed much light on the

parent-child relationship and assist the teacher in planning some new strategy with regard to the child and parent.

Kindness and understanding, not curiosity and criticism, should be the keynote. Consider the case of Mary, who was retiring, obedient and cooperative in class, but who could not be persuaded of the necessity of doing even brief, carefully-planned, definite assignments. The demerit system, which can be relied upon to work in many cases to achieve results when there is no deep-seated trouble, failed to work in this case. The mother could not come to school for some mysterious reason. But pressure brought the father, a harassed-looking person. A sympathetic inquiry to find the root of the trouble, to try to diagnose the ailment scientifically, led him to relate the story of a wife and mother who had left the family, though he was not pressed for details as to the cause. When he realized that it was not curiosity about his private life, but interest in Mary's problem that prompted the questioning, he did want to help. He revealed that Mary, apparently starved for family life because of the absence of her mother and the fact that her father leaves for work at five in the evening, was tied to the radio, and was thus enjoying a vicarious family life. Mary entered at this point. After a three-cornered discussion of our favorite radio programs and why we enjoyed them, we agreed that they would be so much more enjoyable if we had the satisfaction of knowing that our assignments for the next day were done. We agreed on a time for doing work, and a time for radio programs. Mary has lost her reticence, is happier, more active in class, has achieved better scholarship, and smiles confidentially, for she and her teacher have a secret—they enjoy the same radio programs. Father and brother are often topics of the chats she and her teacher have. She even speaks freely about her mother, whom she sees occasionally, but about whose separation from the family no surprise is shown, and never curiously.

Each case demands a different technique. If the investigation is entered upon in a spirit of kindness and mutual helpfulness, the course of procedure will suggest itself, and it is

not difficult. The teacher is dealing with a troubled parent of a difficult child, not the ally of a hardened criminal.

Special effort on the part of the teacher in establishing genuinely friendly parent-teacher relationships will bring about gratifying results. Antagonism will not arise, or, if there, will vanish. When definite lack of ability requires a reclassification of a child in the school system to special work, this attitude will help the parent to take a long view of the child's life, and his larger goal. This whole procedure, carried out on a larger scale, can make for better public relations for teachers, and for fewer maladjusted or anti-social parents and children.—C.K.R.

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PERFORMANCE TESTS. Warren (5) defines performance test as "a type of mental test in which the role of language is greatly diminished, the test material consisting of concrete objects (or pictures or drawings) instead of words, and the responses consisting of manipulations of these objects, though the directions are often given verbally." The term is often somewhat loosely used interchangeably with NON-LANGUAGE, or NON-VERBAL test, but the latter is designed to be given entirely without the use of language, whereas the performance test may or may not involve language.

Performance tests originally were in-

tended to serve as a supplement to or substitution for intelligence tests which relied heavily on verbal ability. In this way it was found that the deaf, the illiterate, certain classes of feeble-minded, the foreign-born, and very young children could be satisfactorily examined. The tests are today used as widely as verbal tests, albeit not in as sufficient number. Their use is no longer limited strictly to intelligence testing, but has been extended to the fields of personality and aptitudes of various sorts. Individual tests are sometimes combined into a PERFORMANCE SCALE which usually samples a fairly wide range of abilities and yields a total score which is more reliable than a single test. Most intelligence tests of the performance type have been standardized on children, relatively few on adults, although there is great need for adult performance tests. Almost all of these tests are administered individually, because of the nature of the test itself and the need for quantitative and qualitative scoring.

Just what qualities are measured on performance tests is not definitely known. When grouped in scale form they serve as good indicators of all-around general ability, and some authors report good correlations with verbal types of tests. But the fact that the correlations do not even approach unity seems to indicate that performance tests and verbal tests may be and probably are measuring different abilities. Many of the individual performance tests show little or no correlation with verbal ability—or for that matter with any measure of “general intelligence.” This fact has stimulated the use of performance tests in vocational guidance, where it is desirable to have information regarding specific aptitudes of a person. Some of these special functions are: speed of manipulation, manual dexterity, spatial relations, constructive ability, mechanical aptitude, and motor coordination. Greene (3) prefers to separate the functions of PERFORMANCE, MECHANICAL, and MOTOR tests, reserving the first term for tests of general intelligence. But it is extremely difficult if not impossible to draw distinctions between the three types. However, some tests do appear to require processes such as judgment, analysis, reasoning, and the like to a

greater degree than do others, and it is these which are usually thought of as tests of intelligence.

MECHANICAL ABILITY TESTS are built to test aptitude for working with tools and machinery, and often contain mechanical devices as integral parts of the tests. Of such a nature are the mechanical assembly tests which require the individual to put together correctly various mechanical objects. This type of test often is valid within a rather limited range of abilities, e. g., a test of so-called “manual dexterity” may be used fairly successfully to select a certain kind of factory worker but not another, although both jobs apparently involve manual skill.

MOTOR TESTS involve various types of coordination, speed of response, and to a certain extent strength. Reaction-time studies, motor development tests, tapping tests, steadiness tests, and tests of motor rhythm come under this heading.

Factorial analyses of large numbers of mechanical and motor tests indicate the absence of a general motor ability. However, some tests do show fairly high intercorrelations, and when these are combined into a battery, good reliability can be obtained. Some of the factors prominent in mechanical ability have been named: perception, visualization, manual dexterity, spatial thinking, ability to discover or to use a role or procedure.

In addition to the more or less quantitative results described above, performance tests also yield valuable qualitative information about the person being tested. In fact some clinicians claim this as one of the outstanding uses of the tests. As the individual works on the test the examiner notes such things as his concentration, persistence, effort, planfulness, carefulness, self-confidence, etc., as well as more temperamental qualities such as response to frustration, hastiness, impatience, moodiness, and so on.

Scores on performance tests are expressed in the usual ways: mental ages, I. Q.'s, centiles, standard scores, grade scores, age scores, etc.—E.W.S.

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PERSONALITY. Personality is defined as "that which constitutes distinction of person; individuality." Everyone has distinguishing characteristics that mark him as a distinct person; that show his individuality; that determine his own self. There are many traits that combine to make up personality. These are appearance or physical traits, intelligence or mental traits, emotional and temperament traits, volitional traits, social traits, and special and acquired traits and abilities. The traits themselves are not the personality. They are the materials of which personality is made. Personality is not a collection or list of traits loosely grouped together but rather a pattern of traits that stands out and so characterizes the individual's make-up and behavior.

Every person has certain ways of behaving or reacting to situations that are typical of him, that express his personality. We are inclined to label his personality according to his dominant traits. For example, the person who is usually cheerful and optimistic is said to have a pleasing personality. The one who pushes ahead is said to have an aggressive personality. The one who is shy and self-conscious is considered as having a retiring personality.

PHYSICAL FACTORS INFLUENCE PERSONALITY. Richmond says, "Morphology is the study of form and structure, and it holds an important place in the study of the personality. From the earliest times strength and beauty of form—the latter varying according to the standards of different peoples—have been sought after as indications of a socially accepted person. Physical appearance is the first thing that strikes our attention in meeting a person, and our judgment of him is inevitably colored by it."

An attractive physical appearance helps to create self-confidence, poise,

self-reliance and similar personality traits. The proper functioning of the digestive and glandular systems influences emotional behavior and hence colors the personality. The keenness and speed with which the sense-organs, muscles and nervous system react to stimuli affect the personality. The person who reacts slowly and deliberately has one type of personality, while the one who reacts quickly and energetically has another type. The kind of body one has, the care one takes of it, and the good health and strength one maintains are all important factors in determining the kind of personality one has and how one expresses his personality traits.

MENTAL AND CHARACTER FACTORS IN PERSONALITY. The type of mind as well as the type of character one has are reflected in behavior, and hence they influence personality. We need but mention such mental traits as intelligence, reason, memory, attention, perception, and imagination to indicate some mental traits that are factors in personality.

A person's character, by which we usually mean his moral and ethical behavior, has a distinct bearing on his personality. Here such traits as honesty, trustworthiness, respect for authority and the rights of others, and general ethical standards may be noted.

DOMINANT URGES AND EMOTIONAL TRAITS. Psychologists stress the importance of training in the early years in the building of personality. "As the twig is bent so the tree will incline," is quite applicable to personality development. Many of the dominant urges (instincts) and emotions need to be properly trained and directed. Some may need to be suppressed, some sublimated, and some cultivated.

VOLITIONAL TRAITS. Volitional traits refer to matters of will-temperament, or energy flow, such as enables a person to direct his energy toward accomplishing a purpose or goal, to make decisions and to choose between conflicting motives. Volitional traits refer to such matters as how a person tackles a task, the degree of energy he is able to muster, how well he carries things through, his attitudes toward problems and difficulties, and how he stands up under obstacles.

PERSONALITY TYPES. The question

of personality types has interested scientists for centuries. As far back as the second century Galen, following Hippocrates, classified people into four types of personalities, sanguine, melancholic, choleric, and phlegmatic. Since Galen's time many attempts to arrive at a scientific appraisal of personality have been made. Among these are various classifications into "types," "dimensions," and "profiles."

It is easy to appreciate the great difficulties scientists encounter in trying to rate, appraise, and classify personality, considering the complexity of the thing, the many traits involved, and the complicated interrelationship of traits. Despite these difficulties, however, much progress has been made. Various personality tests, rating scales, inventories, and similar measures have been devised that are valuable in appraising and typing personality.

Of the different personality types proposed by psychologists that of introversion-extraversion proposed by Jung has aroused the greatest scientific as well as popular interest. (See: Introversion; Extraversion)

BODY TYPES AND PERSONALITY. All through the ages people have been interested in the relation of physical features to personality makeup. A great deal of folk-lore and fiction has grown up around it. For example, the receding chin indicates a weak will; red hair a fiery temper; fatness and good nature; thinness and sharp temper; slanting forehead and lack of intelligence; deformity of body and corresponding deformity of mind and character, and many others. At one time phrenology attracted considerable attention. This method of character reading has been given considerable scientific study and has been found to be worthless.

Differences in bodily features and physical make-up have prompted a number of investigators to search for a relation between body type and personality type. Investigations have been carried on in Italy, France, Germany, and the United States, and some promising results have been found. Those of the psychiatrist Kretschmer are perhaps the most promising today. In his studies of the physical make-up of the patients in mental hospitals he discovered a relation between body type and tem-

perament or character make-up. By means of careful measurements Kretschmer demonstrated that there are three definite types of bodies. He named these asthenic, athletic, and pyknic. The description of these types is, briefly, as follows.

The typical asthenic is "a lean narrowly built man, who looks taller than he is, with a skin poor in secretion and blood, with narrow shoulders, from which hang lean arms with thin muscles, and delicately boned hands; a long, narrow, flat chest, on which we can count the ribs."

The athletic type "is characterized by the strong development of the skeleton, muscles, and skin. The shoulders are wide, the chest large, the muscles stand out, the skin is firm and elastic, and there is only a moderate development of fat."

The pyknic type is characterized by the 'round' figure instead of the thin figure of the asthenic type. There is a distinct tendency to fatness. "The skin is smooth, well-fitting, of moderate thickness; the muscles of moderate strength but 'soft.'"

From the study of body types Kretschmer took up the study of temperaments, and then the relationship between physique and character or personality. He concludes that there is a direct relation between body type and personality type. He sets up two distinct personality types, the cyclothymic and the schizothymic, or as they are more commonly known, the "cycloid" and the "schizoid" types. The cycloid corresponds to the pyknic body. It is characterized by such traits as open-hearted, sociable, good-natured, hilarious and fun-loving. The schizoid corresponds to the asthenic and athletic body types. This type "is inclined to withdraw from his fellows, to keep within himself, and is often a serious and humorless person." Kretschmer finds that the prevailing kind of psychoses for the pyknic type are manic-depressive cases, and for the asthenics are schizophrenia (dementia praecox) cases. These classifications into types are helpful in showing personality trends, but we must not take them too literally, for as Kretschmer himself says, "we never come across pure types in the strict sense of the word, but always more or less of a mixture; though often the essential

features of a type are present, minor features will belong to another type."

PERSONALITY DEVELOPMENT IN THE CHILD. As we observe the behavior of the little child we see that he makes many different responses to his surroundings. He soon discovers which stimuli bring satisfaction and which bring annoyance, and he directs his behavior accordingly. The child learns very quickly what to do and how to do it, to get his wants satisfied and to rid himself of annoyance. As he gives expression to his dominant urges and emotions he finds that some bring satisfactory results. These he employs regularly. Others he finds are not effective. These he soon stops using. Others he finds are effective if used in the right manner and if not overdone. The child learns very early to respond to signs of approval and disapproval and to adapt his behavior along approved lines. Reward and punishment play an effective role. He finds that socially approved behavior brings reward and satisfaction, disapproved behavior brings disapproval and dissatisfaction. Gradually he learns which responses bring satisfying results. He selects and practices these and they become a relatively permanent part of his personality make-up.

PERSONALITY DEVELOPMENT IN CHILDHOOD AND YOUTH. As the child grows older his world expands and he finds it necessary to respond to many new and varied situations. His associations are no longer restricted to the members of his immediate household, but are extended to include people in the neighborhood, school, church, and various groups and organizations.

Much has been written about the influence of the gang on the development of the boy. No one who has ever belonged to a gang or any other organized group will deny that it had a decided effect on his character and personality. Every organized group has its standards and codes of behavior which influence the lives of the members. The boy who belongs to a gang, team, or group finds that he must obey the rules and "play the game" if he is to remain in good standing with the group. Group control and public opinion are powerful forces in directing behavior.

Since no two groups are exactly alike

in their purposes different rules and standards are adopted by them. Hence a person who belongs to several different groups develops different reaction systems or habits. In this way he develops different sides to his personality. For example, a man may develop a business personality that is serious and exacting; a social personality that is friendly and jovial; a religious personality that is humble and submissive; a home personality that is kind and tolerant, or it may be disagreeable and domineering. All these personalities call for different types of behavior yet he has no difficulty in keeping them separated and in calling forth the responses appropriate to each. He has developed sufficient flexibility in his reaction system to respond freely and easily to the demands of the situation. He has developed what is known as a many-sided or well-balanced personality.

STRENGTHS AND WEAKNESSES ARE FACTORS IN DEVELOPING PERSONALITY. As the boy associates with his gang the strong traits he possesses begin to show up. If he has leadership ability, for example, he will tend to exercise that trait and he may become the leader of the gang. If he is humorous he may become the gang's wit. If he is slow and gullible he becomes the butt of jokes and pranks. If he has entertainment abilities he assumes the role of official entertainer. These abilities influence his personality growth.

What is true of the boy and his gang is true of all group relationships. Abilities are capitalized and they become personality assets. Weaknesses, too, influence personality traits. Sometimes they cause "shut-in" personality to develop, and at other times they cause a person to develop an aggressive and dominant personality because of compensation for weakness. Overcoming handicaps and weaknesses has caused the development of personality traits leading to successful careers. As examples of this we may mention Demosthenes, Homer, Disraeli, Milton, Byron, Bell, Steinmetz, Helen Keller, and Theodore Roosevelt.

UNITY AND CONSISTENCY MARK THE PERSONALITY. In spite of the fact that individuals have different personalities under different situations, there is a certain unity and consistency

about personality. That is to say, personality traits weld themselves into a unit. This "unity of traits" is a more or less permanent matter which keeps a person consistent in his behavior. We may say that he runs true to form in the expression of his personality. For example, if a person is generally pleasant and even-tempered, it means that the traits making up these behavior patterns work together more or less permanently, as a unit, and they do so consistently. One can predict such a person's behavior to-morrow, next week, and next month.

Another angle to consistency is that of trait consistency. To be consistent, a person should behave the same or nearly the same in similar situations. Failure to do so within reasonable limits marks the poorly integrated personality. However, there are limits to consistency. For example, it has been found that children who were consistently honest in some situations were dishonest in others. Many children will cheat when given the opportunity in some situations. Honesty is not a general trait but is attached to given situations. The same is true of many other personality traits. A person is not inconsistent if he behaves differently under widely different situations.

Variations in behavior are to be expected since conditions of life involve so many different activities, yet the normally well-integrated personality shows a certain unity and consistency of behavior from situation to situation which is in accordance with his own personality make-up.

CONTINUITY MARKS THE PERSONALITY. Besides possessing unity and consistency the personality also possesses continuity. By this is meant that, despite the fact that the personality normally undergoes a gradual change as the person grows from infancy to old age, it tends to preserve a sameness or continuity. For example, the pleasant, jovial disposition of the little child tends to continue as a part of his personality make-up as he grows up and even as he goes from one environment to another. Mark Twain's wit and humor showed itself early in life and it continued with him throughout his life.

Occasional abrupt changes in person-

ality do occur. Such changes are usually due to severe illness, extreme good or bad happenings, religious conversion, and the like. Such sudden and extreme personality changes are exceptions to the normal rule of personality development. The same may be said of dual, multiple, and split personalities. They are deviations from the normal and represent a disorganized personality.—A.D.M.

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PERSONALITY TESTS. Objective tests of personality qualities have been developed in an effort to identify and diagnose important factors in personal and social adjustment which were formerly regarded as unmeasurable intangibles. The factors in question have defied appraisal through the avenue of ordinary intelligence and achievement tests. It has been recognized, however, that if those vested with the task of guiding children and others can secure tangible evidences of their characteristic attitudes and modes of adjustment in a variety of situations which vitally affect them as individuals or as members of a group, they can use such comprehensive information in aiding children to achieve better personal and social adjustment.

Personality is not something apart from other aspects of growth and development, but usually refers to the effectiveness with which the individual meets his personal and social problems, as well as the manner and extent to which he impresses his associates. Tests (measures, inventories) of personality are designed to determine the ways in which an individual makes his necessary social adjustments and to what degree he is characterized by mental health. They are designed to identify and evaluate the individual's more intangible but nevertheless complex patterns of feeling, thinking, and

acting in relation to his personal adjustment and to social situations. Personality measures are not tests in the sense of measuring a person's capacity for solving increasingly difficult problems; they are, rather, inventories for ascertaining the extent of an individual's adjustment to the requirements of his nature and of group living.

PROBLEMS IN PERSONALITY MEASUREMENT. Many problems confront the testmaker who essays to apply the quantitative method, which has apparently been successful in the measurement of intellectual factors, to the evaluation of personal attributes and social adaptability. Some psychologists have, in fact, doubted whether science will ever be able to chart an accurate picture and measure quantitatively the intricacies of the human personality. The various aspects of personality are so elaborately interlocked in the functioning of the total organism that some have questioned whether they can be made to lend themselves to measurement by numerical methods comparable to those developed for the intellectual component in man. The principal problems encountered have been concerned with (1) the non-quantitative nature of personality, (2) difficulties in sampling methods, (3) the establishment of test reliability, and (4) the determination of test validity.

THE NON-QUANTITATIVE NATURE OF PERSONALITY. Psychologists have become so accustomed to dealing with intelligence as an accumulation of ability ranging from zero (no ability) up through increasing brackets or brightness to genius states, that they have been inclined to approach the measurement of personality qualities in somewhat the same manner. It is, however, clear that the determination of personality status cannot be ascertained in any such additive way. Personality is a blend among a legion of specific traits and tendencies to behave; it cannot be regarded as an accumulation of them. It is believed that any other view of personality organization disregards its essential unity and the integrative nature of its behavior manifestations. The possibility, for example, of measuring sociability or self-confidence, apart from other qualities and on the basis of making a score of 30 mean five

times as much as one of 6, is, at least for the present, practically out of the question.

The difficulty of measuring so-called personality traits is also obvious when it is realized that traits are not, even on practical grounds, absolute or uni-dimensional entities. Test makers must in the nature of the case think of such personality traits, for example, as self-control, cooperation or loyalty in terms of "a certain degree of expression" or development, not as absolutes the possession of which is desirable in any amount. Personality trait inventories have often neglected the fact that when a given trait exists in either too excessive or too limited degree it ceases to exist as such and merges into a related and often undesirable trait. Excessive "leadership" may, for example, become "tyranny". "Dignity" may merge into "snobbishness" at one pole and become "clownishness" at the other. A golden mean, not amount, seems to be the desired standard here.

DIFFICULTIES IN SAMPLING METHODS. In spite of the weaknesses inherent in the trait concept, attempts have been made to measure the extent to which individuals are introverted or extroverted, dominant or submissive, aggressive or apathetic, honest or deceitful, sociable or unsocial, and the like. The assumptions underlying such measurements are that uni-dimensional personality traits exist, that representative responses indicative of their character and intensity can be elicited and that such responses are amenable to measurement by quantitative methods. As a matter of fact, research workers have not only defined the trait "introversion-extroversion" very differently, they have found low correlations among the scores yielded by various introversion-extroversion tests.

It can be seen that if research had revealed the presence in children or adults of consistent and mutually exclusive personality traits, the problem of measurement would be a relatively simple matter. On such a basis the entire personality of a given individual could be charted by stimulating him to reveal one or two specific expressions of each of his entire repertoire of traits. In short, once a trait was ident-

ified, a reliable measure of one or more of its expressions would be sufficient to establish its existence. However, as Hartshorne and May (and others) have shown, behavior is relatively specific, being a function of concrete stimulating situations as well as of characteristic tendencies to respond that have developed as the result of previous affective experiences.

Although the sampling technique has been productive of excellent results in the mental testing field, it is fraught with difficulties in personality measurement. It is based, first of all, on the additive concept—that personality is a sum of unintegrated samplings of behavior or of answers on a test form. It is commonly conceded that the organismic whole for which personality stands is anything but such a collection of static specifics. In the second place, traits, whether regarded as specific dispositions to act or as grouping of tendencies to behave governed by guiding principles, are not static factors. Experience has shown that they are, rather, fluctuating tendencies to react which are constantly being modified by experience and which are continually recombined with each other to bring about new and unique patterns of attitude and behavior. These and similar problems are accentuated when attempts are made to measure conduct, as contrasted with feelings and attitudes as expressed on verbal tests. It is thus not surprising that recent attempts have been made to measure the extent to which individuals are adjusted to the requirements of their nature, without at the same time being concerned about their status so far as the possession of traits is concerned.

RELIABILITY. If testing instruments are to be trustworthy, the responses which they elicit must be consistent, i. e., they must secure comparable results when repeated after a lapse of time. In the case of personality tests it is not, however, logical to compute reliability coefficients on the basis of repeated administrations of the same or similar test forms. Knowledge, understanding, and skill, once attained, remain relatively stable, and tests designed to reveal their presence will usually yield similar results on different occasions. Since personality

factors, such as feelings, attitudes, convictions, and modes of behavior, are modified in accordance with fluctuations in experience, a repetition of the same or a comparable test would result in the measurement of personality change rather than in the determination of test reliability. It is for this reason that personality test coefficients are usually obtained by the split-half or odd-even method. On this basis scores secured from a single administration of a test are correlated with one another. When such a coefficient is high (usually well above .9) the test is said to be reliable.

VALIDITY. A personality test is regarded as being valid when it measures precisely those aspects of personality or adjustment which it purports to measure. Validity, which is at the same time essential and difficult to obtain, is theoretically dependent upon the availability of criteria against which to correlate test scores. In the case of personality qualities or adjustments, such criteria would necessarily need to be the judgment of individuals who know the party being tested intimately. However, as workers in this field know, the unreliability of such judgments has usually been such as to render them wellnigh useless. As one psychologist put it, "Sometimes the judge's opinion may be poor, sometimes the individual may not reveal himself as he is, and traits which he possesses may go unrecognized, or may be clouded over by comparative factors, such as good social presence, high intelligence, and so on, which dazzle the observer to the point of befogging the presence of the trait sought" (G. C. Schwesinger, *Heredity and Environment*, p. 109.). Carefully constructed personality tests are thus likely to be more valid than the outside criteria against which they are checked.

It is because of these difficulties that test makers have for the most part turned to the practice of validating personality test items on the basis of their diagnostic value in discriminating between contrasting groups of individuals possessing the qualities being measured in the highest and lowest degrees. Less distinctive deviate subjects may be classified by this method in terms of their reactions to questions

which have turned out to be consistent internally in diagnosing extreme cases. This is essentially the method used by Binet in the construction of his mental test and by Woodworth when he endeavored to differentiate between soldiers (World War I) with psychopathic tendencies and those who were sufficiently normal to perform military functions adequately.

Another technique has been that of administering test items (questions) to psychotics in hospitals for the mentally diseased who have been diagnosed by psychiatrists as representing the extremes of certain personality tendencies. The Northwestern Introversi - Extroversion Test was, for example, standardized on inmates who were regarded as suffering from dementia-*praecox* (schizophrenia) or manic-depressive psychosis, respectively. No account is usually taken, however, of the fact that normal subjects whose scores resemble those of psychotics may possess personality characteristics which compensate for any marked tendency they might have to behave as psychotics.

More recent techniques of personality test validation have included (1) use of the Bi-serial coefficient of correlation in test item analysis and in the determination of internal consistency, (2) efforts to disguise (rationalize for the testee) test items which might otherwise appear disparaging if answered negatively, (3) the adjustment of test items to the testee's reading level as determined by standard word lists, (4) inclusion of teacher, pupil, employer, or employee judgments in the final selection of test items, and perhaps most important of all, (5) the original careful selection by experienced and competent workers of the test items in any trait category or area of personality adjustment. It is by these and similar means that test workers hope to cope with the pitfalls attendant upon the establishment of reliability and validity in their personality testing instruments.

TYPES OF PERSONALITY TESTS. Instruments designed for the measurement of personality qualities or adjustment have tended to fall into the four categories: (1) Rating scales, or paper and-pencil devices for rating individuals on a sliding scale (continuum) of per-

sonal characteristics, (2) personality inventories (tests), or standardized instruments on which the subject checks his personal reactions to a wide variety of specific situations, thus indicating his status in relation to given personality traits or degree of adjustment to the needs of his nature, (3) projection tests, or picture, ink-blot, and drawing interpretations designed to disclose the individual's phantasy life and inner personality organization, and (4) direct measurement of overt behavior, in which the subject's actions are observed in situations involving desirable or undesirable behavior and which are below the threshold of recognition (for him). The last named technique is illustrated by the character education researches of Hartshorne and May, in which children were tested in situations which made it possible for them to steal or to lie about their school achievements or other accomplishments.

The present discussion is concerned with standardized personality tests or inventories and will thus conclude with a presentation of the more representative among literally hundreds of such tests, especially those designed for use with school children, high school and college students.

EARLY SINGLE-DIMENSION TESTS. Practically all of the early inventories were designed to measure an individual's status with respect to one personality trait or one aspect of adjustment. Among the most popular personality dimensions selected for such measurements were neurotic tendency, dominance-submission, introversion-extroversion, and emotional stability. All of these traits were approached from the standpoint of a continuum which extended from one extreme, such as out-and-out extroversion, to the other, in this case pronounced introversion. The first personality inventory on record, Woodworth's "Personal Data Sheet," was designed, for example, to detect neurotic symptoms in soldiers drafted for service in World War I. Woodworth obtained his questions from a survey of the literature in abnormal psychology and from a careful study of soldiers who were experiencing difficulty in making satisfactory adjustments to military conditions. The questions asked included

the following: "Have you ever lost your memory for a time?" "Did you ever run away from home?" and "Did you ever have the habit of stuttering?"

Subsequent to the appearance of Woodworth's test, the Thurstones developed a similar instrument, called the "Personality Schedule," which was apparently successful in differentiating neurotic college freshmen from normal students of the same age. Thurstones' questions included such items as, "Do you get stage fright?" "Do you worry too long over humiliating experiences?", and "Do you consider yourself a rather nervous person?" The authors reported satisfactory internal consistency and a reliability coefficient of .95 for this inventory. Similar results were claimed by the Allport brothers for their "Test of Ascendancy-Submission" which appeared in 1922 and which purports to measure the extent to which an individual is characterized by social dominance or its absence.

Other attempts to measure single dimensions of personality included the Willoughby "Emotional Maturity Scale" (1931), designed to ascertain general emotional level, and introversion-extroversion inventories devised by Laird (1925), Heidbreder (1926), Conklin (1927), and Gilliland and Morgan (1932), respectively. Laird's test, sometimes called the "spotting" scale, which was in fact an adaptation of the Woodworth "Personal Data Sheet," was later used as the basis for a well-known composite personality inventory.

MULTI-DIMENSIONAL OR COMPOSITE TESTS. Personality tests of more recent origin have for the most part been designed to measure a number of traits or dimensions of adjustment. They have thus been designated as "broad-coverage" or "multi-dimensional" tests. Prominent among these instruments are the following.

The Rogers "Adjustment Inventory" (1931). One of the first and still one of the few composite personality tests adapted for use with children (ages 9-13) was the inventory by Rogers, which essays to measure a child's (1) personal inferiority, (2) social maladjustment, (3) family relationships, (4) daydreaming tendency, and (5) general adjustment. Although not as objective

and reliable as some later tests, this inventory has served to locate significant maladjustment trends in children. It was standardized on 100 normal subjects and subsequently used to diagnose the responses of 50 problem children. The form of the inventory is based upon the interview method of questioning the subject concerning his wishes, his activities, and his relations with his parents.

"The Personality Inventory" by Bernreuter (1931) contains 125 questions calculated to measure the individual's status relative to neurotic tendency, self-sufficiency, introversion-extroversion, dominance-submission, self-confidence, and sociability. The test items, which have been standardized for high school and college students and for adults, are scrambled throughout the test, and are answered by encircling "yes", "no", and "?" designations. Typical test items, the answers to which are weighted in relation to several traits, include, "Can you stand criticism without being hurt?" "Are you easily moved to tears?" and "Do you find it difficult to get rid of salesmen?" High correlations among several of the traits (.93 between neurotic tendency and introversion-extroversion) indicate that they are far from being mutually exclusive, and that trait tests of this kind face the difficulty of proving the existence of the very entities which they propose to measure.

"The Adjustment Inventory" by Bell (1934) is patterned to some extent after the Bernreuter Personality Inventory in mechanical design but is fundamentally different from it in that it purports to measure the individual's adjustment to four areas of living rather than the degree to which he possesses certain personality traits. The areas of adjustment in question include (a) home, (b) health, (c) social, and (d) emotional. The scores yielded are interpreted as being excellent, good, average, unsatisfactory, and very unsatisfactory, as the case may be. Typical test items, which are standardized for high school, college and adult use, include, "Is either of your parents very easily irritated?" "Are you subject to attacks of indigestion?" and "Do you frequently have spells of the 'blues'?" Reliability coefficients for the four phases of adjustment run from .80 to

.89 with a figure of .93 for the total test.

"The Humm-Wadsworth Temperament Scale" (1934) attempts, through 318 presumably valid items, to determine the extent to which the normal adult individual is characterized by hysteroid, manic, depressed, autistic, paranoid, and epileptoid personality trends. The test is based on Rosanoff's theory that such temperamental patterns are but normal counterparts of the uncontrolled manifestations of psychotic and other aberrated individuals suffering from criminal tendencies, manic-depressive disorders, involuntional melancholia, dementia praecox, paranoiac conditions, and certain forms of epilepsy, respectively. According to this theory, a person who is sufficiently normal to enjoy control and balance is in no particular danger of becoming psychotic (insane), no matter what his personality pattern may be. In spite of its clinical appearance, this test has been used largely in industry and is apparently intended by the authors to assist in the selection and placement of men and women in the business world.

"The California Test of Personality" (1939 and 1940) by Thorpe, Clark and Tiegs, has been developed in five series—primary, elementary, intermediate, secondary, and adult—ranging from kindergarten to maturity. It is thus suitable for pupils of all ages and for adults in industry. It endeavors to measure adjustment in twelve areas relating to personal and social well-being, which include self-reliance, sense of personal worth, sense of personal freedom, freedom from withdrawing tendencies, freedom from nervous symptoms, social standards, social skills, freedom from anti-social tendencies, family relations, school relations, and community relations. A reliability of .92 is reported for this test, the norms of which are based upon a study of over 1000 adjustment situations which confront children at home, at school, and in a variety of environmental circumstances. The inclusion of a profile makes it possible for teachers and others to detect areas of maladjustment in which the individual needs remedial treatment.

"The Social Adjustment Inventory" (1940) by Washburne has been developed to measure the individual's (1) happiness, (2) alienation, (3) sympathy,

(4) purpose, (5) impulse-judgment, and (6) control. A unique feature of the inventory is the inclusion of 21 truthfulness questions which are scattered among the 122 items of the test. If the subject continues to say "Yes" to such questions as, "Do you always smile when things go wrong?" and "Are you always on time for school and other appointments?" the conclusion is drawn that he has probably been untruthful to a comparable extent on the social adjustment items of the inventory. The test does not, however, measure categories of adjustment which are considered fundamental by most teachers and clinicians.

Other personality trait or adjustment tests of recent origin which have been found useful in education and industry include "An Inventory of Factors S T D C R" (factors in introversion-extroversion) by Guilford, "Inventory of Activities and Interests" by Link and others, "Every-day Life" (self-reliance) by Stott, "The Case Inventory" by Maller, "Aspects of Personality" by Pintner and others, and "Temperament Analysis" by Johnson.

SUMMARY. The increasing use of objective measuring instruments in the personality field is apparently based upon a desire of educators and psychologists to assist children and adults, for whom they are partially responsible, in making better adjustments to both the requirements of their nature and the demands of the social environment. In the case of industry, personality tests are utilized for the more intelligent and economical selection and placement of employees. As the difficulties involved in personality test construction are more adequately overcome, and as more valid and comprehensive instruments are developed, both educators and industrialists will be in a better position to detect and correct incipient personality disorders and to adjust potential workers more satisfactorily to the demands of vocational specifications.—L.P.T.

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PHOBIAS. These intense and uncontrollable fears are pathological in character, that is, morbid and irrational. Among children, mainly adolescents, the most common forms of phobia are: monophobia, or fear of solitude; nyctophobia, or fear of darkness; acrophobia, or fear of altitude; and zoophobia, or fear of animals, such as dogs or cats. It is believed that phobias go back to some early frightening experiences which are consciously forgotten, as a rule, though the original emotional conditioning continues to exert its effects. Consequently, the treatment consists, in general, in emotional re-conditioning toward the object of fear.

See: FEAR.

PLASTIC MATERIAL (AS A PSYCHOTHERAPEUTIC MEDIUM) Modelling clay and non-hardening plasticine have been used for many years in nursery schools, elementary schools, and settlement houses for recreational and artistic activities. Its numerous and specific characteristics make it an ideal medium for psychotherapy. Due to its non-specificity of form and soft consistency which yields easily to manipulative pressure, the small preschool child as well as the adolescent can handle it, though on different levels of achievement.

Plastic material has some advantages over graphic creative work. Instead of handling one medium (pencil, crayon, or brush) with one hand and using it on the second medium (paper), the child handles the plastic material directly with both hands. This handling results from the correlated motor functions of both hands which are adapted to the material. The child learns how to master plastic material through ma-

turation cycles, which are initiated by the sheer love of motor activity directed at the material offered. The early stages of this cycle, during which creative intentions are absent, may be called the kneading period or stage of non-specific treatment which corresponds to the scribbling period in drawing. It is an investigation of the external world by rhythmic movements out of which patterns are built. An accidentally gained form or shape may be given a name and may become the carrier of a meaning. A more integrated rhythmic rolling seems to be characteristic for the next higher level of maturation during which attempts in object representation appear. The first real form mastered by a small child is usually a rolled cylinder which is comparable to the loop, whirl, and cycle which form the primitive units of a visual motor "gestalten" in graphic work. Through handling and turning the cylinder can easily be changed into an arc, a ring, or a spiral. Out of these primitive geometrical forms more complex entities can be created. Rolled balls to which cylinders are attached, are usually the first attempt to create a "man". The plastic creative work of the child is no longer sheer motor exercise or a symbol, but the representation of real objects to which meaning and emotional values are attached. This, in turn, stimulates the child's phantasy life, and leads to the expression of problems which the child may have.

This is one of the reasons why plastic creative work is of such great value in the observation and treatment of behavior problems in children: because it enables the child to clarify more freely and bring to conscious, tangible levels his own phantasies, which are thus accessible to therapeutic procedures.

Aside from the quicker maturation cycles, plasticine offers other advantages. It lends itself extremely well to the repetitive-aggressive-destructive-constructive modes of behavior which seems to characterize the normal development of children and which is so evident in their play patterns and verbalizations.

Plastic material is a three-dimensional medium. This fact eliminates the troublesome problems resulting from the proper indication of depth and perspective.

ive, and allows for the free experimentation with the physical qualities of objects. Problems arising out of the body image or postural form of the human body can be handled very well by the child. Parts of the body and their functions can be explored.

The child's plastic creative work is an expression of his own motility, his aggressive investigation into the world of reality, his drive to produce patterns on the receptive material with which to express his emotional and social problems, and his tendency to solve many of his problems through these experiences. This may be accomplished through any or several of the following stages:

1. Form as produced by motor impulse.

2. Form reproduced as seen or in imitation of other children.

3. Form which arises from the body image or postural model of the body and its manifold sensory and conceptual experience.

4. Form as an expression of phantasy, emotional and social problems.—A.G.W.

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PLAY. I. THEORIES AND DEFINITION.

Play is the name for an activity which is the main type of occupation of a normal young child. It is also observed in young animals. In grown-up life, the capacity and opportunity for play become limited.

Self-evident as the play seems to the observer of it, its definition and its theoretical explanation have caused great difficulties and have not yet developed to unanimously accepted views. Physiological theories and definitions were historically the first. Herbert Spencer's theory is that play is an aimless pleasurable expenditure of exuberant strength. The pattern of the activity that results from that superfluous energy is playful self-repetition

and playful imitation of adults' activities. The critics of this theory make it evident that play is not only frequently carried on long after the superfluous energy seems to be used up and the child seems actually exhausted, but that even, on the contrary, play may be a means of recovery from fatigue and a means of restoring energy. This would lead to the opposite of the superfluous energy theory, namely, to a recreation theory of play whose champions were Lazarus and Steintal. The fundamental principle of the recreation theory is that change of occupation gives the possibility of recreation to the fatigued parts of the nervous system while activating others. K. Groos whose survey of animals' and children's play is one of the most complete, takes the view that the above two theories supplement each other. One-sided occupation, he argues, leaves other energies unused. The student who used his mental powers all day long accumulated motor impulses. They represent superfluous energies of another type than those which he used up and while he uses these he restores at the same time his lost powers. (On the other hand, he is not blind to the fact that often the change of occupation is not very great and yet we can feel recreated. He points out that even a change from one scientific book to another may restore our energies). K. Buhler adds another objection, namely that children play all day long without having done work from which they want to rest. This and the fact that they sometimes carry on their play to complete exhaustion make him feel that none of the physiological theories is as yet fully satisfactory. Therefore he demands a strictly psychological analysis of play activities. To the author, it seems that the above theories up to Groos fail to be satisfactory because they are based on a wrong premise. Their premise is that play is that activity which is not directly useful for survival; therefore, it seems to be surplus activity. However, the premise must be called a fallacy. Physiologically, play activities are responses to stimuli just as well as any other activities and, for the maintenance of the organism's physical and psychological balance, they seem to constitute just as vital processes as any others. Complete deprivation or neglect of play-

ful occupations seems, not only for children but also for adults, to result in maladjustments which show that something vital has been neglected. Physiologically, play should not be defined in terms of purposes that are extraneous to the organism's functioning, but rather in terms of types of certain stimuli and reactions as compared with others effected in work or in rest. Playful occupation as such, that is to say, an occupation of a certain structure which is different from the structure of work or rest, must also constitute physiologically another totality of processes than that in a work period or a rest period. Since physiology does not seem to help us here any further, we shall do better, for the time being, if we utilize our psychological findings.

Similar conclusions will be reached in a survey of biological theories of play. In biological terms, play has been defined as "the agency employed to develop crude powers and prepare them for life's uses" (K. Groos). He and many others think in this connection mainly of all those plays in which the child and also some animals anticipate and practice future activities in a playful manner. Play, then, is part of learning, among all those animals who are capable of learning and who receive food and protection from their elders at the beginning of their lives, so that they are not forced to strive immediately after birth for their existence. In reference to this, it would be correct to call their play a surplus activity. The practice theory emphasizes the drive for repetition and the instinctive impulse for imitation in play as a means of learning. This biological theory may be correct as regards the origin of play in a genetic sense, and as regards a large number of plays and games, though for a number of plays Stanley Hall's theory of play being the "purest expression of motor heredity" may be correct. But this surely does not give an adequate account of all play activity. There is a playful messing about, moving, and talking that certainly do not come under the category of practice, nor of recapitulation. From the playing subject's point of view it is entertaining, pleasurable, sometimes restful, sometimes stimulating and even exciting, sometimes just time-killing. The effect can be varied. The subject may,

as a result, be refreshed or fatigued, relieved or preoccupied. In other words, this occupation seems to have, biologically, some function in the individual's continuous adjustment to life. It is adjusting activity, in the sense of preparation and tentative or fictitious doing, as well as in the sense of recuperation of strength, emotional relaxation, symbolic expression of feelings and attitudes. It was in this latter sense that the Greeks considered their theater play which, in arousing certain emotions, had a purifying effect (katharsis). In this sense psychoanalysis rediscovered play, thus helping to effect a renewed and much more complete understanding of its potentialities by retrieving it from a purely intellectual appraisal.

It is proposed, then, to define play biologically as activity which, while done for its own sake and for the satisfaction it gives, is instrumental in adjusting and readjusting the individual continuously to life, with its present as well as with its future demands.

PSYCHOLOGICAL THEORIES. In the psychological theories of play, different characteristics of play activities have been emphasized by different authors at different times without any one single theory covering all facts that have to be considered.

The earlier theories (M. Baldwin, K. Groos) emphasize primarily the instinctive character of all play activity. The playing child follows a hereditary, innate impulse just as the playing animal. In both cases it is an unconscious learning that takes place in the imitations and repetitions which can be observed in all play (Spencer, Wundt). We can perhaps call this the "preparation-for-life" attribute of play.

In a second group of theories, the specific pleasure derived from playful occupations has been made the discriminating characteristic of play as compared with other activities. This pleasure was attributed by older authors (F. Schiller and K. Lange) to the fact that in a play a free play of imagination could take place without the limitations of reality. It was in their opinion the same freedom which reigned in play as in art and which afforded a specific type of pleasure to the confabulating mind. The emphasis seems to lie here in two things simultaneously, namely, in the fact of the mind's

independence from reality as well as in its confabulatory productivity. Karl Buhler's theory of play as the activity that yields "function-pleasure" as compared with the pleasurable satiation that results from the satisfaction of our physical needs as well as greeds, on the one hand, and the satisfaction of creation in creative work (Hedonalgic Reaction Theory) adds an attribute to the same trend of thought. This is further developed in Charlotte Buhler's analysis of maturation from play to work, that is, from activities with a predominating function pleasure motivation to activities with a predominating motivation for constructive achievements. The essence of this trend of thought is: Play is an activity which frees the individual temporarily from duties and from the obeisance to the dire necessities of everyday things to be done. Moving in such freedom with a well-functioning organism, handling materials without purposes of usefulness, allowing one's mind to wander and to confabulate—this purposeless, free doing is satisfaction in itself and through its character of seemingly unlimited potentialities. We may call this in future reference the "free-function-pleasure" attribute of play.

While the first group of theoreticians emphasized the relation of the play to the future, and while the second group emphasized the play in its actuality, the third group of thinkers relates the play primarily to the past. In very simple forms, this relation to the past is established in the old recreation theories of Lazarus and Steinthal and the recapitulation theory of G. S. Hall. While the simpler idea of play serving as a means of recreation was open to criticism, the readjusting function of play got a new and deeper foundation through S. Freud's analysis. Freud called play a "correction of the unsatisfying reality." This correction is partly related to the future through fictitious fulfillment of desires, but this correction is perhaps still more vital in regard to the past, namely, for the assimilation of past experiences. Freud showed in this part of his play analysis that playful repetition of painful events is a way in which the child relieves himself of too vehement impressions. He showed, furthermore, that through a playful change of rôles from the passive

suffering into the active inflicting part the child can take a symbolic revenge on people who made him suffer. In this theory the play reality becomes a very vital substitute reality in which the child finds means of his own to conquer those stronger forces to which he is constantly exposed and the impact of which would probably be harmful without the existence of this subterfuge of the play world. We may call this third attribute of play the "readjustment" attribute.

A full understanding of all that play means in human life is not possible, unless all those facts are considered that we condensed into the three basic attributes of play: the preparation-for-life attribute, the free-function-pleasure attribute, and the readjustment attribute. For both the play educator as well as the play therapist, it will be of essential value to clarify and to define reliably the type of play that is purely experimental in the sense of learning; the type of play that is pure enjoyment of free movement, free confabulation, like pleasure travel without aim, in the sense of function pleasure; and, finally, the type of play that is intensely vital in the sense of readjustment through relieving repetition, symbolic revenge, and symbolic wish fulfillment. The development of potentialities, the materialization of functional and spiritual independence from want with the experience of elation that this free functioning yields, the recovery of health and emotional balance—all to be had through play—are basic values.

II. PLAY DEVELOPMENT IN CHILDREN.

A. PLAY ACTIVITIES IN THEIR MATURATIONAL SEQUENCE. From the point of view of maturation, we find that different types of play activities are only possible to the child from certain ages on. The child of the first 8 months is not yet capable of the understanding of relationships and consequently not yet capable to understand that sounds or gestures or things can be used to signify something else than what they are. That is to say, a child younger than 8 months is not yet capable of any make-believe game in which something means or represents something else. The child of the first 15 months is not yet aware of the fact that one can handle material so as to produce

new patterns and new structures. If it accidentally produces them, it does not notice this result. Consequently all play that we observe in the first 8 months is neither such in which rôles are being played nor such in which patterns or structures are being formed. The order in which these three basic ways to play are discovered represents, it seems, a maturational sequence in which functional play, namely, sensori-motor experimentation, appears first, representational play, namely, make-believe actions, appears second, and construction play, namely, forming of patterns or structures through composing or deforming of materials, comes third (C. Buhler, 1928). The play of the first 8-10 months seems to be essentially experimental and functional. Playful repetition of past experiences with a relief function of this repetition is quite possible so far as simple sensory and motor experiences are concerned; yet our knowledge as to this type of repetition in the first months of life is negligible. The regular sequence of play movements in the first year points more in the direction of experimentation and function-pleasure activity for this first period.

(1) Function play. At 1½ to 3 months, the baby begins to produce such movements which according to our former definition are play movements. They seem to be pleasurable to the child as such and do not seem to serve any further purpose. They can be discriminated from the earlier mass activity of the newborn by the facts that they are produced under observation, under control, in frequent repetition and at slower speed than the mass movements and rhythmically (H. Hetzer, M. Guernsey). Finger and hand movements seem to be the earliest of these play movements which first appear mainly after meals when the baby lies satisfied and before it again goes to sleep. Foot and toe movements, grimaces, head and arm movements follow later.

From 3 months on, objects are included in this play. According to explorative research (C. Buhler, H. Hetzer), the play movements seem to follow in a definite sequence from shaking at 3 to 4 months, knocking on a surface, rubbing, pushing, pulling, to throwing at 10 months. From 7 months on, two objects can be held in both

hands; at 8 to 10 months, they are being knocked against each other. At around 10 months, loose parts of objects are moved against each other (knuckle of a bell against the bell, two piece rattle's loose handle against the ball). From 10 to 18 months, hollow things which can be fitted into each other, are being put in and taken out, and insides are being explored. Twofold activities like pressing a rubber doll and then listening to its squeaking sound, swinging rattle or bell and listening become distinct phases of experimentation in the second half year. The various modes of grasping as studied in their sequence by A. Gesell, H. Thompson, H. M. Halverson and B. M. Castner are being practised in the play of this period. On the whole, it seems as if the child practises and exercises in this period all possible movements including sound as well as his senses.

Recent linguistic studies (R. Jakobson, 1941) proved beyond doubt the sequence theory in the production of cooing sounds. This cooing which starts at about 6 weeks of age and which, unlike crying, does not serve an immediate purpose represents in its beginning another example of playful production of a material that is later used for definite purposes (K. Buhler). In the beginning, it is also function play, experimentation with sounds and learning through play.

There seem to be conditions under which more than pleasurable functioning is experienced even at this early stage in play movements. One possibility seems to be a rapid repetition of movement with an emotional component. The baby may, for example, jump up and down with increasing hilarity until a certain climax is reached. After that it collapses in fatigue or turns to something else. This can be with or without company. This exhilarating and at the same time discharging effect of especially big sweeping movements in rapid succession or repetition is also observable in later stages.

A second potential characteristic that may become manifest in function play is the satisfaction with a good movement and the disappointment with a bad movement. An 8-month-old baby may, if not succeeding to squeeze a rubber doll so that it squeaks—if somebody showed him one could do that—become

angry and emotional over this frustration and he may beam in satisfaction the moment he succeeds. Also, this factor of satisfaction in the successful movement and of disappointment in the unsuccessful movement remains as an independent factor besides the reaction to the social effects of these successes and failures.

Pure function play, in the sense of the enjoyment of purposeless functioning as such, persists on a reduced scale throughout childhood and even after. It is carried on through life in all playful moving about of a non-sportive nature. The second year child's running, climbing, pulling carts and animals behind him belong still to this category. The later tricycling and bicycling, running on scooters, moving in sleighs, the earlier ball and hide and seek games are more in the nature of transitions to more sportive occupations in which the pursuit of goals, the setting of records, and the social element become essential.

(2) Representational play. An 11 months old girl throws her pillow on the floor, herself on it, closes her eyes and remains a few minutes in this position. She plays "sleeping". That is to say, she makes movements which mean something different from what they actually are. Her action "represents" sleep or is a "fictitious" reproduction of sleep. In this simplest and earliest "make believe" play, the child uses very simple and obvious implements. Besides the above observation of C. Buhler, there is one of an 11 months old boy who dusts a chair with a piece of paper (Scupin), one of an 11 months old girl who feeds her doll with imaginary food (Valentine), one of a 12 months old boy who pretends to give something into the father's hands (Valentine), and of a 12 months old boy who throws his head back and puffs like the father does when smoking (Valentine). There are no observations before the 11th month, unless one accepts Freud's theory about throwing-away movements. Throwing away of objects is observed at 10 months. Freud interprets the throwing-away play as a symbolic act of sending the mother away. It is at once evident that this representation would be of a different type than the before quoted observations.

The child that dusts the chair repeats playfully an observed action with

pretense implements. There is nothing emotional about the observation or the repetition. In Freud's example, the child relieves himself from his emotional reaction to the mother's leaving by repeating the deprivation with substitute materials. The substitution is here unconscious and does not presuppose intellectual insight. Therefore, it could occur at an earlier stage than pretense play. For the same reason, it can also be more complicated than the first pretense plays. The latter are all very simple; the symbols are neither concealed nor unconscious, nor do they seem to serve any other purpose than playful amusement. This amusement is here however not the pleasure in functioning, but the pleasure in playing "as if".

The question as to criteria for the discrimination of make-believe play with or without deeper meaning and purpose beyond the surface amusement in the pretense has been raised and studied recently repeatedly, though general conclusions have as yet not been reached (F. Homburger - Erikson, L. Bender and P. Schilder, C. W. Valentine, C. Buhler, most recently L. B. Murphy and E. Lerner). The discriminating criteria lie neither in the implements nor in the activities as such. Bender and Schilder demonstrate how a toy car put in front of three toy people is used by one child for hitting and running down those people, while another child does not follow the suggestion of this constellation at all, but rushes the car through the room and enjoys its movement and noise.

L. Murphy finds (1941) that "the content of a child's play . . . always represents something that he has taken in." This generalization would not apply to the playful production of sounds and movements in the first year, particularly by deaf children with respect to sounds and blind children with respect to movements. But this argument neither precludes nor proves anything in regard to the representational or emotional function of the playfully produced material. The decisive point is whether one assumes or not a purely playful production of functions as a possibility. Since an emotionally conditioned, unconscious reflection and even representation of one experience in and through quite another channel of expression is possible to the

organism before there is any insight in or knowledge of symbolic representation, ("Body language", L. Kubie), no theoretical objection can be raised from this angle against the psycho-analytical dogma that the content of each play act must be considered as determined by and as an expression and representation of the child's desires and fears (R. Waelder, 1933.) Psycho-analytical theoreticians stated that the only angle from which this view might have to be reconsidered would be the possible admission of K. Buhler's function pleasure theory. However, from the strictly psychoanalytical point of view, this is not acceptable since there exists no meaningless and purposeless behavior. That is to say, the content of each play act represents either the fulfillment of the child's unfulfilled desires or else an action through which the child can give vent to anxieties or to revenge impulses and through which it can work out the injuries inflicted on him by traumatic experiences.

We have then as two basic points of view the strictly psycho-analytical theory of play, according to which each play's fictitious content is meaningful and symbolic, and on the other hand, a less unified concept of play which allows for the possibility of playful and even nonsensical pretending. Nonsensical singsong, rhyming, fabulation seem in the light of this second assumption often only practicing of this age's rich imagination.

The invention of an "imaginary companion" is another item in the pretense play of this period. It is a pretense play especially of only children and of shy children. While not abnormal if not carried on beyond a certain stage, of about 6 years of age, it is most probably always the expression of a unfulfilled need (Hurlock and Burnstein: M. Svendsen).

The make-believe play seems to reach its highest point at about 3½ years. It is considered so typical a behavior at this level that the child's readiness to enter a pretense play suggestion is used as a 3 year maturity test by A. Gesell and by C. Buhler and H. Hetzer.

(3) CONSTRUCTION PLAY. If anyone builds a tower of blocks for a child younger than 15 to 18 months old, this child will invariably knock the building down. He does not yet for a moment

contemplate the finished structure of somebody's activity, nor does he produce any such structure himself. Only at about 15 to 18 months of age, will a child become aware of any such newly created product of activity as a new structure and as product of an activity. The child before that age is not yet aware of products as results of activity. Once the child has discovered this idea of making things, he will try to do this himself. Two hollow cubes which so far were knocked together, held against each other, fitted into each other, will now for the first time be put on top of each other or in a row; the child will look at this effect and will if it can speak give this new unit a name. This new behavior we call construction. The constructive play is defined in comparison with the functional or the manipulative (Van Alstyne) handling of materials by the following criteria: 1. the child contemplates the product of his activity. 2. While the product may at first be an accidental result of manipulation it becomes thereafter an objective of a playful handling of material. 3. The child evaluates his product, whether accidentally or intentionally produced, as success, as something of which he is proud. That is to say, the satisfaction of achievement replaces partly or at least becomes predominant before the pleasure of functioning or of manipulating. 4. The child becomes interested in materials and his watchful attention shifts from the observation of his own movements to the observation of the effects he can produce in materials (C. Buhler). 5. The child presents, in constructing, similarly to the artist, problems and solutions of a technical, intellectual or emotional nature.

From 1½ years on construction assignments are being understood if not always responded to. "Building a tower" is a test item for 2½ to 3 years in several preschool test series (Merrill Palmer, A. Gesell, C. Buhler, and H. Hetzer, Minnesota Preschool tests). Drawing a man with head and legs present is expected by F. Goodenough in her drawing test at 3 years.

Construction replaces manipulation with one material after another, with building materials first between 1½ and 3 years (H. Hetzer, 1932; Van Alstyne, 1932); with many unformed

materials like sand, clay, plasticine, drawing, painting at around 3 to 5 years (H. Hetzer, Van Alstyne). The constructive mastery of technically more complicated materials which consist of diverse elements like the "Mecano" type of toy is generally not reached before 5 or 6 years (H. Hetzer, V. Neubauer, C. Buhler). Between 6 and 10 years, constructive handling of materials remains a predominant interest in a normal child (C. Buhler, 1933). The interest shifts in this period gradually to more realistic manual work, that is to say to the manufacturing of "useful" products. With the increase of realism, play creation, consisting in the manufacture of products for the fun of it and not as a necessity, is undertaken under the aspects of hobby or sport in distinction from work. This transition takes place in pre-adolescence. A sideline to the constructive interests of this transitional period can be seen in the collecting and hoarding which culminates around 10 to 12 years of age (H. C. Lehman, 1927; W. Durost, 1932).

The unique value of constructive play which the modern Nursery School and Kindergarten have discovered and made use of lies in the double satisfaction which it gives to the child through the fact that, while creative work in materials is a means of expressing one's personality (Bergemann - Koenitzer, E. Hanfmann) by releasing tensions, it gives at the same time the satisfaction of achievement, of having brought a self-assigned task to a successful end. In this sense maturity for constructive play is identical with maturity for school work, namely for the carrying out of assignments to a satisfying result, in overcoming hindrances and sticking to the task till the goal is reached. Constructive play therefore develops in the child his creative powers as well as his moral maturity for work.

B. PLAY MATERIALS. Children play with or without implements. The implements can be either raw materials or else any objects which the child uses for toys.

The baby of 6 weeks plays his first play with his own fingers before it can grasp any object. From 3 to 4 months on, it likes to hold, grasp, swing, move about one and later two objects. The desirable first year objects are mainly defined through the opportunities which

they offer to the various senses for listening, looking, touching, and moving.

As the modern Nursery School and Kindergarten have demonstrated, good and varied play implements have a decided effect on the child's mental growth as well as on his whole personality development. There is less quarrel and more cooperation in Nursery Schools if play space and play equipment are ample (Jersild and Markey, 1935). A great number of studies on toy preferences show with considerable consistency the repeated selection of certain fundamental things for the fundamental types of occupation. Among the most preferred raw materials for construction are regularly blocks preferred by boys and drawing, painting, plastic materials by girls (H. Bott, 1928; Van Alstyne, 1928; Lehman and Witty; L. Farwell, 1930; J. Hulson, 1930; L. Caswell, 1932; M. S. McDowell, 1937). The same authors find regularly among the preferred toys some object that the child can pull after himself when moving around, like carts or cars, and also implements for physical exercise such as tricycles, slides, swings. Dolls and materials for playing house are still among the most frequently mentioned items for fiction games, and picture books for the receptive side of fiction. On the whole, boys seem to prefer more technical construction materials and implements for motor activities, girls more artistic construction materials and implements for fiction play.

Country children who live on farms without the opportunity to visit Nursery Schools and Kindergartens and who are generally less well equipped with toys than city children, are apt to neglect constructive plays and engage more in outdoor motor activities (Lehman and Witty, 1926). This applies still more to children of primitive nations whose constructive play is only very rudimentary like drawing in the sand and whose plays are mainly based on motor activities or on social activities (M. Mead, Danzinger and Frankl, A. Bernatzik).

In social games, fewer implements are being used than in solitary play; this is true of all folk games of which H. Hetzer made a survey, including modern children's street games. On the other hand, the constructively-minded child

is generally in a solitary situation, even if among children. This is apparent in the monologue type of conversation which children at work lead, as J. Piaget showed. With the social and linguistic element increasing, implements are less used. Hetzer's records (1926) of pretense plays illustrate this fact. She found that the younger ones of the observed children, at an average of 3 years, would speak little and carry out all pretended activities. The older ones with an average age of 5 years would repeatedly say: "Let us now pretend she was washed and dressed and now she is going out", while they were actually doing very little with the doll.

The effects of different unformed as well as formed play materials on children and the sequence of their interest and experimental handling of such materials had been made the subject of explorative studies by H. Hetzer, Bergemann-Koenitzer, E. Hanfmann and others. Recently, L. Murphy and E. Lerner attempted a systematic study of the reactions to and the effects of various materials. They added to the conventional a number of new materials like coldcream and dough, and described individual reaction patterns to a comprehensive set of toys and materials. In the final analysis, constitutional as well as environmental conditions are considered in relation to the total as well as the specified reaction pattern. This study promises to lead us beyond the former schematical behavior and drive analyses.

C. PLAY PARTNERSHIP. Play with a partner seems from its beginning desirable to a normal child. Normally, a division of attention between partner and toy or play acting is possible for an infant in the second half year in such a way that his attention goes back and forth between person and toy. A 6 months old baby may smile at the mother, then watch the rattle which she swings, or he may himself swing the rattle and then look at the mother or other play partner. This performance seems sometimes to take the appearance of a display or showing off. Fight for toys as well as yielding toys to another child as also toy exchange has been observed from 6 to 8 months on. Triumphant smiles when getting hold of a toy that the other child had were

noticed at 10 months.

While the mother's company seems always to be desirable for the young playing child, other companions are not always readily accepted. In observations of spontaneous group formations in Nursery Schools, all observers agree that children younger than 5 years will for long periods carry on a solitary play, especially when constructively active, and that the groups which they form, seldom include more than 3 or 4 participants (S. Wislitzky 1928, Krasusky, R. Hubbard 1929, E. H. Green 1933, H. Mallay 1935, R. Klein and E. Wander 1933, D. Cockerell 1935).

For the child younger than 5 years, the play in groups, though educative, is not yet an inner urge. D. Cockerell finds in an unguided group of preschool children as much as 74% of the time given to parallel play. In the following years, the opposite trend to great sociability and crowd gatherings is increasing. To be one of the crowd and to be like the others becomes an essential value at the 8 to 12 year level (Reininger).

To be alone means at this stage to be excluded. This then is the time of large group games and the beginning of team games. In spontaneous gatherings of children who play in streets together, H. Hetzer found the highest percentage of participants in the 5 to 12 year age groups. The social element seems to become of outstanding importance in the school child's play. The team game type of social play seems never to decline all through adolescence (Lehman).

III. PLAY IN EDUCATION. In the educational program of Nursery Schools and Kindergartens, play is used as the basic educational activity. Apart from physical exercise and the practice of certain arts as e. g. singing, constructive handling of materials and social games constitute essentially the Nursery School and Kindergarten occupations. Studies in which groups of children with and without Nursery School Education were compared show according to the summary of J. C. Foster and M. L. Mattson (1939) greater gains in the physical, mental, social and emotional development of the trained as compared with the untrained children. Increase of knowledge, acquisition of skills, improvement in routine habits

and in social adjustment, decrease of inhibitions were proved as training effects by various authors (Jersild and Bienstock 1934, B. Hattwick 1936, Van Alstyne and Hattwick 1939, Jersild and Fite 1937, H. Malley 1935). While these of course are combined effects of proper guidance, the social situation, the repeated practice and so on, the play itself, social as well as constructive, are basic activities with which this education is carried out. Lack of proper toy equipment and space is in Jersild and Markey's study (1935) in high correlation with much fighting in Nursery Schools. Unwillingness to play constructively with materials was found, in case studies of C. Buhler, characteristic of certain types of immature school children.

As the child grows older, manual work becomes a hobby for free hours, social games develop into team games and the make-believe play is revived in form of dramatic acting. In the Anglo-Saxon school systems, these activities have always been regarded as of educational value for the development of character and personality. While this was more a matter of conviction than a proved theory, it seems that this conviction finds an unexpected degree of justification in the experience of modern play therapists, in which the adjustment effects of acting, of practising social and physical skills, of manipulating with materials become daily more irrefutable.

IV. PLAY THERAPY. Play therapy is a modern method of treatment of personality disorders in children. It was, as M. Gitelson formulated it (1938) "an outgrowth of child analysis." A. Freud and M. Klein adopted both, though in different ways, play techniques in child analysis. The reasons were, on the one hand the negative one that dream analysis, free associations and discussion methods are difficult to use with especially younger children, and secondly, the positive one that the child expresses his problems more readily in his play than in words ("Play is the natural language of a child," F. Aïlen, H. Ross), and furthermore that play is a dynamic process in which "something is taking place" (H. Ross), something that relieves and eventually cures the child. That is to say, play becomes when used in this way a technique

and a means of diagnosis as well as of treatment.

For the diagnostic evaluation of play it would be essential to have more reliable knowledge of the nature and degree of symbolism in the child's play than we possess now. The question of the meaning of play has been discussed at the 1938 play therapy meeting without leading to general directives for the diagnostician. Consequently the diagnostician is so far on his own regarding the amount and nature of information that he derives from his patient's play. He may or may not see a direct or indirect representation of past experiences in make-believe scenes as well as in constructions. He may use the content and the objects and materials used in the play or the formal pattern or the emotional pattern without the content for his interpretation. He may find that the child plays a problem that he cannot solve or else he may find that the child rids himself in play of experiences so that they do not become problems at all with him. This latter possibility is shown in illuminating examples of L. Murphy's recent play experiments (1941). She also demonstrates the different depths of levels of expression in play. On the whole, one can observe a tendency to realize more and more that perhaps the deeper layers of emotional response to life find their projection in formal patterns of play behavior rather than in the content. Attention to this was called through studies of Homburger-Erikson, Bender and Schilder, K. Lewin, L. Murphy and E. Lerner. Demonstration of this fact on a more quantitative basis seems to result from C. Buhler's recent World Test experiments.

A continuity of play hours with the right setting of the situation has proved to have therapeutic effects. The question, however, under which circumstances the therapeutic effect takes place fully, and under which not, is not yet answerable. All therapists seem to agree that transference and catharsis are essential in that dynamic process which in this play situation is set in motion. There is no unanimity in regard to the degree and content of the interpretation. A. Freud and M. Klein represented from the beginning of child therapy different viewpoints in that M. Klein gave even to very young chil-

dren a full interpretation of their problem in psychoanalytical terms, while A. Freud used interpretation only very sparingly and had a more educational than strictly analytical attitude to the child. The two different viewpoints are both still to be found with various play-therapists, though it seems to be the general tendency to use rather less than more interpretation and to emphasize rather the educational than the analytical side of treatment.

In interpretative treatments, the idea and general experience are that children work out their problems symbolically, that is to say, in a symbolic situation and with symbolic materials and actions. They seem to be able to find and apply symbolic expressions and solutions of their problems, under the right guidance and under the right circumstances. In the course of this whole process during which symbolic expressions and solutions of the child's problems are found—with the means of a cathartic play in which the therapist has his part—an emotional maturation and stabilization take place. J. C. Solomon points out the following therapeutic aspects of this process. The child gets a chance to desensitization of traumatic experiences by repetition of the same material, to overt expression of hostilities, to aeration of thought processes, to alleviation of guilt feelings, and to incorporation of therapeutic suggestions.

While the original procedure was to let the child play and choose his toys, some therapists have changed the technique in that they suggest the toys or suggest some course of action or act themselves in place of the child. This so-called "active play-therapy" takes with some therapists the form of dramatic acting which they do themselves with the incorporation of suggestions on the part of the child.—C.B.B.

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See: PLAYROOM, RECREATION, TOYS.

PLAYROOM. Since play is the primary educational avenue of young children, the provisions in the home for adequate play opportunities are of utmost importance. What are some of the essentials in planning the indoor play of children? It is highly desirable for a child to have some space in which to move freely, where ordinary play activities can cause no furniture, upholstery, rug or floor damage, where the child is protected from hazards, and where he feels he has privacy, a place of his own.

In planning play space, a room for play alone would be preferable for every home. If this is not feasible, second best would be a combination sleep and play room. Where there is more than one child, a bedroom might be shared, and likewise, the playroom. A separate playroom and sleeproom or even a combination sleep and playroom are beyond the reach of most people. The next alternative would be the least

used space in the home, such as a corner in the dining room, sun room, or glassed-in porch. The kitchen, even if large, is least desirable of all, due to physical hazards. If a home has a relatively unused hall corner, attic, or basement, such space can sometimes be converted satisfactorily. The living room, as the only place to play, is questionable. A child's play is often noisy, requires floor space, and frequently carries over from one day to the next. Obviously, this would not be at all practical in a family living room.

If at all possible, then, the play of a young child should be centered somewhat away from the regular movement of family activities. However, a living room should provide some space for all family members. Where there are young children, this would mean a small rocker and chair, a low table, a special shelf with children's books, and maybe some toys in the bookcase.

In planning the playroom proper some of the factors to consider are: its location, the finish of the interior, and the necessary provisions for equipment and play materials. It is important to have the playroom easily accessible to the person who is supervising the child—in case of the mother who does her own work—it should be near her center of activity, the kitchen. If a house is two-story in structure, a playroom on the first floor would save considerable time and energy for the mother. A playroom for preschool age children should be relatively near the bathroom. It should, likewise, be closely connected with a screened porch, or the play yard, so that the child can move in and out of the house freely, particularly with play materials, without necessarily walking through the living room.

The location of the playroom, then, should be near the mother's center of activity, near the bathroom, and near an outside entrance to the play yard, or to a screened porch for play on favorable days. It would also be efficient to have the playroom placed near the child's bedroom to reduce unnecessary movement around the house.

Now that the playroom is placed in the home, what physical features should be observed in the actual planning of the room? Where cost is an item of consideration, rather than have two small rooms for a child, one for play

and one for sleep, it would be preferable to have one larger room built with an alcove or in an L-shape to allow for a sleeping corner, somewhat separate from the play area of the room. In this way there would be considerably more floor space for play. Young children need space, since many of their play activities are centered on the floor, and many of their materials are rather sizeable. Perhaps the most preferable exposure, regardless of climate, would be south-east. It means a cooler room in the summer, a warmer one in the winter. It means a room with morning sun while the child plays. For those living in the south, it is particularly desirable for ventilation and breeze. Since young children are short in stature, and spend an appreciable amount of play time on the floor, although ventilation is necessary, caution must be taken in preventing unnecessary drafts, particularly on cold days.

Windows should be low enough so that a child can see out, and curtained to permit the sun to shine in. Small paned windows may interfere, somewhat, with a child's view. Likewise built-in features under the windows, such as toy shelves and window seats, prohibit the child from getting up to a window and gazing out at leisure. If the playroom is in the second floor, it might be well to protect the windows by either screening or window guards.

What should be considered for wall and floor finish? It is best to keep large surfaces, such as these, free from pattern and too vivid color, and employ color touches either in the curtaining, or maybe, instead of curtaining, by indoor shutters, or again in the lining of the storage shelves. Pictures, likewise, can be used to give color to a room. They should be hung on the eye-level of the child, if he is to enjoy them. The actual toys add considerable color to any playroom. A conservative wall-finish would be an off-white, maybe verging on a soft yellow. Hard-surfaced walls, such as wood panelled and plastered, do not allow for versatility in picture arrangement; neither do they permit the display of the child's own creative accomplishments with paint and crayon. Walls which can be thumb-tacked are best. Next best, would be one such wall, and as final choice, a large bulletin board. A washable wall

finish in order to easily eliminate small finger prints or occasional paint splashes would be a real help.

As for floor finish, the still young, somewhat tottery legs find navigation on a highly polished surface a trying ordeal. If the room has a wood floor, refrain from a high finish or elaborately laid narrow boards which make an all-over pattern. A linoleum is practical since it is more easily scrubbed than a wooden floor. Scatter rugs tossed about merely create likely spots for falling. However, if it seems necessary to protect a child from a cold floor, a small washable mat, particularly with a non-slip liner, might be used.

What equipment should be placed in a child's playroom? A good criterion to follow is: only those things which are essential and which further his best play interests. There should be storage space so that a child will learn to care for his play things, and at the same time he will be stimulated to play by seeing materials. Consequently, dropping toys in a box with a lid violates both criteria. Open shelves, where play equipment can be seen, and where toys can be conveniently stored in an orderly way, would be best. Shelf depth and height should be regulated according to its use. No shelf should be too high for the child's complete reach. Likewise, if the bottom shelf is raised above the floor, approximately six inches, it is more accessible to the child and the toys are somewhat protected from floor dust.

In planning the shelves, there are certain advantages in having them built in units. It means that different types of materials will have their separate places, and it also means that the room arrangement can be varied from time to time. The units should provide for the following types of materials: manipulative (such as peg boards, beads, and puzzles); creative (such as paper, pencils, crayons, and scissors, books, and musical instruments.) The books and musical instruments should have their separate compartments. Still other provisions should be for: constructive (which includes blocks and work bench supplies.) Blocks, especially the large ones, can be stored on shelves, or neatly stacked on the floor, since that is where they are used anyway. Dramatic play requires some place to keep doll clothes, doll bedding, and the like. Large muscle

materials mostly need floor space for storage (such as a tricycle, or a wheel barrow.)

If the playroom is in combination with sleeping quarters, draw curtains for the toy shelves, or screens might prove helpful to reduce the child's desire to leave his bed and play. If the bed is in an alcove, maybe the sleeping unit could be partitioned with a folding door. For the actual play itself, the room should provide sufficient floor space for large block building, for riding wheel toys, or pushing a doll buggy. It should provide for a housekeeping unit (doll bed, small chest, and the like). This furniture should be scaled to a child's size, and not be a miniature doll house affair. In addition to block building and the doll corner, there should be a place for quiet activity, such as looking at books. There should be a table and chairs, suited to the child's size, for play with manipulative and creative materials. Some furniture is constructed so that it can be elevated with the child's growth in height.

The furniture and equipment in this room should be scaled to the child's size; it should be sturdy and steady and well constructed. Rounded corners are preferable to sharp turns. A natural wood finish is easiest to keep, looks best over a long period of time, and, if a light wood is used, the dust shows less readily.

A child's playroom, then, should be strategically located in the home, should be planned for a child's active and hard use. It should incorporate artistry in its design and color and should be considered an essential unit in a home where there are young children.—R.F.S.

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See: PLAY, TOYS.

PRENEUROTIC AND PREPSYCHOTIC PERSONALITY TRENDS. A generation ago psychiatrists were largely concerned with diagnosing and treating neurotic and psychotic troubles in adults. Presently they became interested in the personality problems of adolescents and then of preadolescents. During the current decade increasing attention is being given to the psychology of the nursery—the personality difficulties of the preschool child.

In psychiatry it is doubly, even trebly, true that prevention is better than cure. Mental, nervous, emotional, and personality disorders are most successfully treated when they first appear; the earlier neurotic and psychotic trends are recognized, the better the prospects of their successful treatment. For a long time we have known that neurotic tendencies could be recognized in the nursery, but lately we are beginning to realize that even psychotic trends can be early detected, sometimes in the preschool child, often in the preadolescent, while such tendencies are nearly always clearly in evidence by adolescence.

Fear is, of course, at the bottom of most of these troubles, but not all of them are predicated on fear alone. There are other factors which serve to differentiate the stable and unstable nervous system, the normal and the deviating personality. Terrifying dreams are most frequently due to conscious or subconscious fears, but they may also be caused by physiologic influences—such as a lack of sugar in the blood stream—and by personality disorders other than fear reactions.

Emotional disturbances and incipient personality disorders in the preschool child are frequently ushered in by such behavior as persistent bed-wetting, hysterical vomiting, sleepwalking, and minor nervous manifestations on the order of tics—blinking, grimacing, and so on. In older children, definite mood swings and other hysterical exhibitions may appear, as well as out-and-out delinquent behavior—truancy, stealing, destructiveness, and lying—and in the

adolescent these personality disorders may be ushered in by sudden changes in social and study behavior.

When the child, no matter of what age, suddenly changes his habits, such conduct should be regarded seriously. The preadolescent's ordinary feelings of insecurity are most likely to be manifested by commonplace neuroticism. But when there is a sudden or abrupt change in the personality behavior of a youngster, his parents, teachers, and physician should seriously suspect that such symptoms are forerunners of more serious psychotic trends. When his feelings of insecurity are merely augmented by bringing home from the hospital a baby brother or sister, he is more likely to resort to conduct which will secure more attention from his mother, such as bed-wetting and thumb-sucking.

The real red lights signaling serious personality disorders are abrupt behavior changes, such as when a child who is bright at school suddenly begins to fail in a number of subjects; when an ordinarily neat youngster suddenly becomes untidy and careless of his personal appearance; when the friendly boy or girl grows inexplicably seclusive or unsocial; when a well-behaved child becomes inordinately disobedient and aggressive; when a child with a good school-attendance record suddenly turns truant; when an honest and truthful youngster begins to lie and steal.

Any and all of these reactions may appear here and there at various ages in the developmental experience of any child, but they are danger signals when they represent a sudden change of conduct.

We must not think that fear and insecurity are at the bottom of all youthful misbehavior. Anger and hate sometimes underlie much juvenile misconduct.

Children differ greatly in their ductless-gland and intellectual endowments and in nervous stability. In brief, each one seems to have a unique personality, and it is possible to study this personality—the sum total of all that is physical, intellectual, biochemical, social, moral, and even spiritual—with a view to discovering during the early school years (and if possible even in the nursery) whether or not the little fellow is exhibiting symptoms which,

taken all together, constitute a picture of deviation from the normal or average child.

We intend in this discussion to consider deviations of personality under the following seven types:

1. Asthenoid.
2. Hysteroid.
3. Paranoid.
4. Cycloid.
5. Schizoid.
6. Epileptoid.
7. Psychopatic.

I. ASTHENOID TYPE OF PERSONALITY. The asthenoid deviate is a youngster who, if he does not receive early and helpful treatment, is likely by adolescence or early adult life to begin the exhibition of either psychasthenic or neurasthenic tendencies. It is these children, along with the hysteroids, who, as adults, constitute the great and growing army of neurotics.

Our greatest diagnostic problem is to distinguish between these preneurotics and a group who are destined to become constitutional inadequates. This latter category includes those human beings who are more or less inadequate or actually inferior in a constitutive sense. It is not so much that their nervous or emotional lives are affected as it is that they are constitutionally unfitted to live in the world as it is and to compete with their fellow men as must be done on this planet.

The cardinal symptoms of the asthenoid deviates are:

1. **Fatigue.** These youngsters tire out easily. They cannot romp and play or engage in athletics as freely as do their associates. They cannot stand long walks or any form of strenuous activity. With them the afternoon nap should be continued years beyond the average. Even when their nutrition is good and health fair, they are always tired out, sometimes even complaining of headaches in connection with their fatigue.

2. **Phobias.** Very early these children have special fears—not merely fears of the dark or of animals, which many normal youngsters experience some time or another while growing up, but unusual fears, such as those of being kidnapped or of having something out of the ordinary happen to them or their parents.

3. **Compulsion.** The tendency during preadolescence to repeat acts, to think repetitive or ruminative thoughts, to become CEREMONIOUS, is indicative of psychasthenia or a compulsion-neurosis trend. These tendencies are much more easily dealt with and eradicated if recognized and treated in early life rather than after they have been allowed to go on into adolescence and early adulthood.

4. **Inadequacy.** All youngsters suffer more or less from feelings of inadequacy and insecurity, but these asthenic deviates are troubled unduly. It is true that many of them are introverts, but even over and beyond this they have unusually pronounced feelings of insecurity and inadequacy.

5. **Inhibitions.** The asthenoid type of personality is overly inhibited. Its victims find self-expression difficult, even more so than do individuals of the ordinary so-called introvertish temperament.

6. **Mild depressions.** Even during nursery years, certain children pass through inexplicable periods of mild depression. These moods continue through their school experience and persist, if they have not been eradicated by effective treatment, throughout adolescence; they presage the adult mood swings and depressions of psychasthenia and neurasthenia.

Certain characteristic traits earmark these asthenoid personality deviates. They are slaves of fear to a marked degree. They tend to formulate definite dreads. They are far greater victims of anxiety and emotional conflict than the average child.

A certain amount of daydreaming and psychic drifting is normal to childhood, but asthenoid deviates are given to this to an unusual degree and use it as a means of dodging reality.

Asthenoid deviates are unusually sensitive and very highly suggestible. Their feelings are hurt again and again where no slight at all is meant. This tendency appears in the nursery, goes on throughout preadolescence, and is increasing in evidence during adolescence. They are always misunderstood.

They dread competition. Any number of normal youngsters are not keen for competition. All introverts dread it more or less, but these asthenoid deviates shun it still more; it is needless to

add that better socialization and more competition constitute effective measures for early overcoming these deviations of behavior which, all taken together, identify these juvenile asthenoid candidates who are destined later on to develop some form of psychasthenia or neurasthenia.

II. **HYSTEROID TYPE OF PERSONALITY.** The hysteroid deviate, together with the asthenoid, makes up the bulk of so-called neurotics. Hysteria really has little or no connection with the hysterical. Any unstable neurotic person may be more or less hysterical, but many victims of major hysteria are seldom, if ever, hysterical. Hysteria embraces a great group of adult disorders which range from mental and emotional upheavals to physical episodes and personality disturbances extending from loss of memory (amnesia) through sleep-walking, automatic writing, trances, and so on to double and multiple personality.

Hysteroids are the youngsters who early learn to play hide and seek with themselves. Later on we say that they "need tightening." In former generations they were thought to be "possessed by devils" and during witchcraft days were the victims of hideous treatment.

There seems to be poor co-ordination between the voluntary and the involuntary, or vegetative, nervous systems of these folks, and their fantastic performances are both conscious and subconscious. The victims of hysteria, whether it is the juvenile deviate, the adolescent performer, or the adult habitue, are trying to escape from some disagreeable situation. They are seeking to solve difficult problems by means of their bizarre behavior. They are trying to gain unearned recognition. Some are looking for sympathy. Others are trying to gratify suppressed wishes and in later life even to satisfy some repressed sex urge.

The hysteroid deviate, whether observed in the nursery, during preadolescence, or during adolescence, exhibits the following characteristics:

1. **Uncontrolled imagination.** All children starting out in the nursery like to indulge their imagination. They like to play make-believe and hear fairy stories. But in the case of the incipient hysteroid, imagination is not only performing as an actor, but there is al-

together too much of a tendency for the youngster to think it is all real.

2. Irritability and sensitivity. Hysteroid deviates, no matter at what age observed, are unusually sensitive and irritable. They are not only spoiled children, but they are the type that is very prone to be spoiled.

3. Egocentric. There is something more than self-centeredness and egoism in hysteroid deviates. They tend to be really selfish, and this selfishness develops into extraordinary unkindness, sometimes even cruelty to siblings and youthful associates.

4. Poor emotional control. While asthenoid deviates may exhibit diminished emotional control, hysteroid youngsters show even more lack of adequate emotional balance. They are particularly subject to tantrums and other aggressive behavior, and these tendencies are likely to become more pronounced with the passing of time.

5. Mood swings. Early hysterical behavior sometimes makes an appearance. Not only mood swings covering hours or days are experienced, but there is a tendency to swing quickly from crying to laughing episodes.

6. Emotional immaturity. As the years pass, the hysteroid deviate presents a picture of failure to grow up emotionally. He may be developing in fairly normal fashion, physically, intellectually, and even socially, but his emotional development is inhibited. After reaching adolescence, the hysteroid young woman craves affection, but she is not concerned about returning it. Even when married she is very selfish in her love life, craving affection but being indifferent about bestowing it.

7. Hypochondriacal. Hysteroid deviates magnify all their physical ailments, seeming to concentrate upon their complaints. They are likely to keep on complaining about a physical disorder even after it has disappeared. There is an early tendency toward hypochondria.

8. Suggestibility. As already indicated, hysteroid deviates are highly suggestible. They are the type of personality most responsive to suggestion, either direct or indirect, and early develop physical-disease symptoms as the result of this suggestibility.

9. Natural affection. Hysteroid deviates are lacking in natural affection,

a characteristic of their entire love life, whether it be affection for parents, for siblings, or for their mates in married life, as well as for friends and associates.

10. Brainstorms — emotional sprees. Early in life the tendency to indulge in panicky behavior or fits of rage begins to manifest itself in the hysteroid deviate, and if not early eradicated by proper treatment, it goes on through adolescence into adult life.

11. Dissociation. The symptoms of dissociation vary at different ages, appearing in one form during nursery days and shifting gears up through adolescence to adulthood, the more common manifestations being amnesia, sleep-walking, feelings of unreality, and then, with increasing years, trances, double personality, and so on. If the hysteroid tendency is marked, when such boys are put in the Army, they are liable to end up in the military hospital as victims of shell-shock, which is merely another name for military hysteria.

12. Disorders of sensation. Hysteria is characterized by hyperesthesias and paresthesias. Skin areas, internal organs, and the organs of special sense may become disordered. Large skin areas of some patients may so lack sensation as to permit us to stick needles and pins into them; they are the so-called human pin-cushions. In others, the nerves become hypersensitive, such persons becoming victims of fastidious suffering, refined pain.

13. Muscular disorders. The muscular disorders of hysteria include muscular spasm, paralysis, tics, nervous vomiting, catalepsy (muscular rigidity), and during adolescence and adult life, the so-called "dying spells."

14. Blindness and deafness. We are beginning to encounter cases of hysterical blindness and deafness as well as paralysis even in children. It must be recognized that hysteria can imitate practically any known disease, whether functional or organic.

15. Stammering. Many cases of stuttering or stammering are hysterical in nature and have to be treated accordingly.

16. Malingering. The vast majority of malingerers of whatever age belong to this group of hysteroid personalities.

And so it would appear that hysteroid deviates start out in childhood to de-

ceive others, and by the end of adolescence or the beginning of early adult life they are deceiving themselves. Many of them become mildly antisocial, but others develop into some type of "chronic ailers"—those who really learn to "enjoy poor health."

III. PARANOID TYPE OF PERSONALITY. While paranoia is commonly thought of as being a concomitant of either schizophrenic or manic-depressive insanity, there are types of paranoia in which the victim never really becomes insane. No matter whether the paranoid trend is psychotic or non-psychotic, it is highly desirable to recognize this deviation as early in life as possible, for much can be done to prevent a child's developing these overt tendencies during adolescence or adulthood if the trend is early recognized and properly treated.

The general make-up of the paranoid deviate can be summed up as follows:

1. There seems to be an inordinate and all but innate tendency toward suspicion. These youngsters early manifest a peculiar form of doubt or skepticism which leads them to distrust almost everything they are told, and of course telling them stories about Santa Claus and the stork does not help any, especially if they are allowed to discover the untruth of these tales by themselves.

2. Conceit. It appears that the young paranoid deviate is a child or youth who is unusually conceited. He is not merely egocentric or self-centered but believes inordinately in his own self-importance and self-value.

3. Stubbornness. While any healthy youngster may pass through periods of negativism or so-called stubbornness, the paranoid deviate is unusually stubborn and persistently stubborn and stubborn over a period of years, in fact, into and through adolescence.

4. Pride. Paranoid deviates have a great deal of personality pride. They worry very much over "what others think" about them—at least that is true during childhood and adolescence. Later in life they sometimes develop a compensatory contempt for the opinions of others, even for the opinions of the whole world.

5. Envy and jealousy. Very early, paranoid deviates become envious of the attainments and prosperity of their

fellow mortals. Even little children will exhibit inordinate jealousy, leading many times to the commission of anti-social acts, even to cruelty.

6. Deficient sense of proportion. Not only do the members of this group take trifles seriously, but they are likely to get themselves mixed up with everything that happens in their environment. They attach a personal meaning to trivialities which in no way personally concern them. They are expert in misinterpreting commonplace events and in attaching great significance to them, and of course all this means that they are always getting their feelings hurt, and presently they come to the place where they perpetually go about with a chip on their shoulders.

7. Odd geniuses. Paranoid deviates early exhibit peculiarities of personality. They are soon regarded by their families as being odd as well as very sensitive and touchy.

8. Disdainful. The fact that the paranoid is so skeptical, so mistrustful of all associates, leads to the cultivation of a temperamental aloofness, a persistent and peculiar type of disdain, especially in later years.

9. Brooding tendency. Paranoids are unforgiving and uncompromising. Since their feelings are always being hurt, they develop a tendency to brood over their supposed mistreatment and thus become highly unsocial until they are ultimately inclined to isolate themselves from their fellows. Eventually they develop a reputation for being thoroughly disagreeable and downright sullen.

10. Restlessness. The accumulation of suspicion, distrust, envy, and resentment leads to incessant activity, not to mention restlessness and uneasiness. These paranoid types are always trying to find out the meaning of what is going on around them. They suspect everyone of sinister motives and are unable to relax and rest because "somebody is plotting against them."

11. Resent discipline. Whether in the nursery, in school, later on at college, or in meeting the responsibilities of adult life, these paranoid deviates resent restriction and chafe under discipline. They simply cannot do teamwork; they want to "fly solo" all the while.

12. Ambition. Many of them are ambi-

tious, in fact, over-ambitious. Some few are actually inventive; the vast majority think they are inventors, artists, and geniuses; and when they fail to get ahead, when their ambitious plans do not succeed, they develop delusions of persecution and come to believe that every man's hand is against them.

13. Family antagonism. They show a peculiar tendency to turn against all members of their own families, and this antagonism extends even to the doctor who may try to help them.

14. Domineering. From nursery days on up through adolescence to adulthood these paranoid deviates are domineering, egotistic, and always persistent, so much so that they become unsocial and even antisocial.

15. Delusions of persecution. As these paranoid personalities grow up to manhood and womanhood, they conceive the idea that they are not getting a "square deal" in life, and so they become critical of the administration of justice and of the courts and many times go to law in an effort "to get their rights."

16. Cranks—radicals. During adulthood many paranoids devote themselves to some radical cause. They develop into "anti-this" and "anti-that." They are troublemakers. They are peculiar people who really are peculiar.

17. Hearing voices. And when paranoia develops slowly in adult life, as it does sometimes, if its victims live long enough, sooner or later the majority of them will begin to "hear voices"; it is during this stage that it is very difficult to distinguish between the so-called "harmless nuts" and the dangerous paranoids whose inner voices tell them to "rise and slay" their supposed persecutors.

While very little can be done to help the majority of adult paranoids, much, very much, could have been done back in childhood had their tendencies been early recognized so that they could have been subjected to intelligent psychiatric treatment.

IV. CYCLOID TYPE OF PERSONALITY. The cycloid deviates tend to indulge in glorified mood swings. They are the emotionally unstable group, and as they grow up to adolescence, 85 or 90 per cent of them prove to be extroverts or ambiverts. They are likely to be well-nourished, round-faced, thick-necked, and stocky; they are the long-

period mood swingers in contrast with the hysteroid or asthenoid short-period mood swingers.

The characteristics of the cycloid (manic-depressive) type of personality are:

1. Physical type. The vast majority tend to overweight, whether they are short or tall. They are what is known as the pyknic type.

2. Infections. From early childhood, cycloid deviates seem predisposed to infections, from which recovery is slow. The so-called vital resistance to microbial and virus infections seems to be poor.

3. Physical activity. They enjoy a reasonable amount of physical activity but as a rule are not overly enthusiastic about it, although in adolescence they are mildly interested in athletics.

4. Reading. Many cycloid deviates are great readers, though not exceptionally good students. In writing they tend to be very prolix; after the manic-depressive cycles have put in a definite appearance in late adolescence or early adulthood, they write voluminously when recovering from a depression or during an overdrive.

5. Leadership. Cycloid deviates often develop leadership very early, even during nursery years and preadolescence. In adolescence and early adulthood they become aggressive leaders. In business, the men become executives. The women are active in club life, and many of them attain success in the business world.

6. Temperament. They tend to be self-confident and aggressive. Even in childhood they exhibit a high degree of impatience.

7. Social reactions. They readily become well socialized. They are talkative and ambitious and, except when in depressive mood swings, are extraordinarily cheerful.

8. Personality. Except during depressions, the cycloid deviates possess charming personalities. They are versatile, kind hearted, and very sympathetic.

9. Roller-coaster behavior. Even in childhood they possess the "up-and-down" type of disposition. Their emotional fluctuations range from marked mood swings up to very pronounced manic-depressive fluctuations of temperamental behavior.

10. Adjustment. Except during de-

pressions, they are well adjusted to social and economic life. They take a great interest in the community and in church work. They take a live interest in all human activities and are intelligent and practical above the average.

11. "Go-getters." Most of the cycloid deviates are extroverts and are therefore genuine "go-getters." Many of them are ambiverts who develop into quiet, executive personalities.

12. Alibing. They are all good at alibing, clever in getting by and getting along.

There are two groups of adult manic-depressives: the constitutive, the more definitely hereditary type, and the reactive. It would appear that, if these reactive types could be recognized early, especially during childhood, very much could be done to prevent the full development of the manic-depressive behavior in later life.

V. SCHIZOID TYPE OF PERSONALITY. Whereas the manic-depressive states may not develop to full bloom before manhood or womanhood (the average age of the first depression being twenty-five), the majority of schizoid deviations appear during later adolescence. Their full development is recognized as dementia praecox or schizophrenia.

About 85 per cent of all schizophrenics are of the introvertish temperament. They are rather tall and undernourished, the asthenic type. In general they are "shut-in" or introspective. Their outstanding characteristics—many appearing in early childhood—are:

1. Isolated personality. Schizoid deviates are not well socialized; they are retiring, shy, and quiet—isolated personalities. They frequently shun hard work, though many become very enthusiastic over something that enlists their interest.

2. Age. Schizophrenia may appear as a full-blown personality defect any time from eighteen or twenty to forty years of age and occasionally even after, though the majority of cases develop before twenty-five or thirty.

3. Relationship to shock. Many times the schizophrenic personality does not appear as a fully developed problem until after some shock, such as disappointment in love, influenza or other

severe infection, childbirth, financial loss, or divorce.

4. Uncontrolled imagination. Daydreaming is normal for a child, especially up to seven or eight years of age, but inordinate daydreaming, overmuch autistic thinking, should be taken seriously by parents, teachers, and physicians, especially when it is associated with marked introspection and an increasing narrowing of external interests.

5. Intelligence. The I. Q. of schizophrenics is average or above. The majority of them are clever. They often stand at the head of their classes and many get their "keys" during the junior year of college.

6. Athletics. Ninety per cent of schizoid deviates shun athletics. They are bookworms and, until the disorder fully develops, are excellent students.

7. Idealism. Schizoids tend to be idealistic. They are amazing dreamers, and the vast majority of them are definitely religious.

8. Sex interest. Schizoids take less than the average interest in the opposite sex. During adolescence the love life may become chaotic. They often crave love but are indifferent about returning it.

9. Siblings. Except in the case of identical twins, I have never found two schizophrenics in the same family.

10. Behavior. Schizoid deviates are seldom "naughty children." Their behavior is usually fairly good until the disorder is fully manifested, though sometimes they do tend to be stubborn in early adolescence, but they are more likely to be docile.

11. Sensitivity. Schizoids are very sensitive. Their feelings are easily hurt, but they present a picture of more than ordinary youthful dignity and are often calm even though inordinately self-conscious.

12. Conscience. Schizoid deviates are not only religious in trend, but they tend to be overconscientious. They often suffer from "guilt feelings" and conscience complexes and sometimes are downright mystical.

13. Frustration. Schizoids are obliged to endure more than their share of frustration. They take defeat very seriously and dread censure. The whole "grading" system at school is a real trial to them, and they suffer unduly

when they get low grades.

14. Gregariousness. Schizoids, even from their nursery days, dread meeting strangers. They are definitely "herd shy." Even when they crave companionship, they dislike to meet new people.

15. Vocation. Schizoids much prefer to work with "things" rather than with "people."

Again is should be emphasized that the danger signal in these cases is the sudden change in temperament—the unexplained deviation in personality behavior. The conduct of the youth who, after going along normally in school, suddenly becomes ornery and cussed, and who changes in behavior at home as well, should cause both parents and teachers to suspect schizophrenia.

Many of these schizoid tendencies appear in early childhood, and still more are they manifested in early adolescence; this is the time when treatment should be instituted to prevent the full development of dementia praecox, which, while it is no longer regarded as incurable, is very difficult to treat successfully and is not always curable when it is allowed to come to full bloom in late adolescence and early adult life.

VI. EPILEPTOID TYPE OF PERSONALITY. Epileptoids belong to what has been called the "dysplastic type" and embrace both introverts and extroverts. The outstanding characteristic of infancy is a tendency to convulsions, but it should be made clear that all infants who have convulsions do not necessarily belong in this category. The outstanding characteristics of an epileptoid deviate are:

1. Egocentricity. Epileptoids are from childhood inordinately selfish; they crave love and attention but are not willing to give them. This trait is much more pronounced than even in the schizoids. Their prejudices are marked, and they are very strong and outspoken in their dislikes.

2. Irritability. Epileptoid deviates present early evidence of marked irritability. They are not only impulsive, but they are sometimes definitely explosive in their reactions.

3. Selfishness. Epileptoids are characteristically selfish. They just cannot get interested in the welfare and happiness of their friends and associates.

4. Moroseness. At times they become

very morose. Their thinking processes are often greatly slowed up; and they are sullen and markedly antisocial.

5. Religion. Most epileptoid deviates and epileptics are religious, but their religion is peculiar. It has been called "selfish religiosity." It is devoid of all ideas of service and charity. They do develop a peculiar type of considerateness for their friends and families which has been spoken of as being "considerate without being kind." They may be said to have religion without zeal, and they are inordinately superstitious.

6. Inconsistency. Epileptoid deviates are inconsistent in their general behavior. Not only are they considerate without being kind, religious without being unselfish, but they are unpredictable in their social behavior, and withal, they are moody, irritable, and resentful.

7. Tenacity. They are tenacious in their personal attachments and are from early childhood "clinging vines" and dependent upon their elders or superiors.

8. Work. The epileptoid type of personality will do a great deal for praise but will never work just for the love of it or for the love of friends or family.

9. Sex. From childhood, epileptoids have a strong sex urge and sometimes exhibit cruelty proclivities which may or may not be connected with sex.

10. Flight from reality. It would appear that epileptoid personalities, whether they develop a real epilepsy or pseudo-convulsive seizures, are seeking to get away from something that is disagreeable. The "fit" is a flight into unconsciousness.

11. In relation to migraine. There is some relationship between hereditary migraine and the epileptoid type of personality. These conditions sometimes alternate in succeeding generations. Epileptoid deviates are also, in general, markedly overreactive to red.

VII. PSYCHOPATHIC PERSONALITIES. This is a term which has come to be applied to an ensemble of physical, intellectual, emotional, and personality defects that are largely inherited, sometimes congenital, and may possibly be acquired in the earlier years of life.

Psychopathic personalities are variously classified.

1. Excitable — unstable.
2. Eccentric — impulsive.
3. Liars — swindlers.
4. Antisocial — quarrelsome.
5. Fanatic — explosive.
6. Generally incompatible.
7. Poorly co-ordinated muscularly.
8. Egocentric — wholly selfish.
9. Immature — childlike.
10. Alert — clever — attractive.

The outstanding characteristics of psychopathic personalities are:

1. They change work frequently, cannot settle down, and have little or no sense of responsibility.
2. In the presence of repeated failures, they may develop defense mechanisms. They seem to follow self-thwarting careers.
3. They show poor judgment.
4. They are subject to frequent mood swings and exhibit marked emotional instability.
5. They are very affectionate and sometimes are more than ordinarily devoted to family and friends.
6. They yield easily to alcoholic and sexual temptations as well as to gambling and as a result are frequently led into crime. They like "rackets."
7. At school they are highly irritable and indulge in temper tantrums. As youths they were probably bullied—were shy and backward.
8. This group are born into the world wholly unequipped for meeting its social situations and for engaging in the competitive struggle for existence.
9. Sex abnormalities are frequent among these people, many of whom are sexually immature, and all of whom are feebly inhibited.
10. Many pass fairly satisfactorily, even well, intelligence tests; sometimes they seem to be clever.
11. They live in the present, cannot profit from experience, and the future means nothing to them.
12. They are little troubled by conscience—are largely without "guilt feeling."
13. They love the limelight, crave notoriety no matter how obtained.
14. They have little or no sense of shame.
15. They do not seem to be able to see themselves as others see them.
16. They appear to go out of their

way to make a failure of life. But they are never suicidal.

ADMONITION. I desire emphatically to admonish parents and teachers who may read this article to remember that, just because a child has one, two three, or even more of the behavior trends belonging to one of these seven categories, it does not necessarily follow that he is a deviate of that category. All normal children manifest some of the characteristics of these different deviations. The important thing to remember is that it is not one, or even a few, of them that constitute deviation, but rather the possession of practically all of those belonging to one of these deviations. It is necessary to bear this in mind lest overanxious parents and over-conscientious teachers fall into the grave error of regarding perfectly normal children as deviates just because they happen to have a few of the characteristics of some deviation.—W.S.S.

Sadler, W. S.: *Theory and Practice of Psychiatry*. Mosby Co., St. Louis, 1936.

PROBLEM TENDENCIES. A behavior problem is usually viewed as a discrepancy between the behavior of a child and the demands placed upon him by his associates. A host of so-called behavior problems may be named in terms of the discrepancy hypothesis. As environmental stresses vary the emergence of problems will vary. Investigators have been interested in the extent to which the characteristics of children, however developed, tend to militate for or against the production of behavior problems. This differential susceptibility was named "problem tendencies" by M. E. Haggerty, Willard C. Olson, and E. K. Wickman in the development of the rating scales which bear their names. In an investigation thirty-five traits of personality were analyzed in relationship to check lists of behavior problems and a method of weighting developed so that the scales may be scored to yield a quantitative measure for problem tendencies. High scores represent deviation in an undesirable direction. A given measure for a child may be evaluated in terms of published tables giving the percentile distribution for large numbers of children. Part

will there find resemblance with divers landscapes, which are adorned with mountains, rivers, rocks, trees, large valleys and knolls of variable kind. Also you will there see manifold battles and lively gestures of figures, strange physiognomies and garments and infinitely many things which you can reduce to a perfect and good form. It is the same thing about such walls and mixtures, as about the sound of bells, i. e., you can find in their tolls any name and work that you can think of."

The systematic effort to exploit the projective method is, however, an undertaking of contemporary psychology. It is not until the 1920's that this approach began to attract wide interest. But within the 1930's it had already become a most energetic field of experiment in personality. The streams of psychological research which converged to bring about this interest were: the progress of the Freudian psychology with its light on sub-surface forces in the personality; the Gestalt experiments with their accent on wholes and on personality as a system of forces; the consequent rapprochement between experimental psychology and clinical findings; the vigorous explorations in children by psychiatrists and psychologists, an especially active field in these years. To this should be added the publication by Hermann Rorschach of his *PSYCHODIAGNOSTIK* (1921) demonstrating the possibility of structuralizing the personality both as emotional and as intellectual activity, and so inspecting it as a unit.

The techniques now in use may be classified according to various criteria. For one thing there is the concrete material which the experimenter employs. This includes, first, what may be termed "situational" approaches. The child is given certain materials, and placed with them in a specified situation in which his reactions may be observed. The most widely used of these is play. D. M. Levy demonstrates in fact that the play situation can be channelized as a well controlled experiment. With play may be grouped dramatic performances, and puppet shows, although these do differ from play in important fundamentals. They offer for one thing a medium more for identification and less one for direct

acting-out of the inner needs.

Second, there are techniques of expressive achievements: drawings, painting (both meaningful and finger painting), plastic art, literary productions, handwriting. In being permanent records, they have the advantage of availability for long time study, with varied treatment and interpretation of results in the light of new findings. These methods have been very extensively used with children and the actual techniques vary with each Examiner. Thus Harms asks his children to paint in response to a stimulus word. Appel directs the associations even more narrowly by requiring the child to make a drawing of his own home. A well-standardized situation was set up by Bender and Woltmann in an experiment utilizing plasticene to study constructive and destructive tendencies in children. Lowenfeld's Mosaics test belongs here too. Much less amenable to any standardization but offering promising leads are certain literary productions, e. g. autobiographies and imaginary companions and including such efforts as Despert's to use fairy stories in directing the fantasy. In this connection it need only be recalled that literature has been recognized—long before the advent of scientific psychology—as projection not only of the author's personality but also of that of his society. With reference to Milton's *Paradise Lost*, Taine comments: "This Adam entered Paradise via England. There he learned respectability, and there he studied world speechifying." As to Eve, "Good housewife! How many votes will she gain among the country's squires, when Adam stands for Parliament." The Angel who calls on Adam "eats like a Lincolnshire farmer." The Miltonic God is "a business man, a school master, a man for show." Concerning that step-child among expressive personality records, handwriting, all that can be said here is that it is not yet soundly established as a science. Probably it has suffered, in this respect, from the too great availability of the raw material, encouraging a dilettante exploitation. This is a pity since the graphic records should almost *ex hypothesi* be valid indications of their producers.

Third, there are fixed stimuli, devices for inspecting the personality at several levels at once. The Rorschach test is

the best known of these, and publications concerning it have become a literature in itself. Murray's Thematic Appreciation Pictures have certain virtues complementing those of the Rorschach. Other pictures have been tried. Stern's "cloud pictures" are another variation, resembling more the Rorschach. Probably an ancestor of these pictorial stimuli, although in a totally different medium, is the word association technique. Jung's name is most closely associated with these, and it can be no accident that Rorschach worked in or near Zurich (Jung's home) in the years when he was developing his ink-blot test.

Fourth, there are very specialized impersonal techniques. Properly validated they are found to be instruments wherewith to differentiate clinical pictures. Electroencephalography is the one among these now yielding the most promising results to a point where it "projects" out the personality. The Davises (P. A. and Hallowell) report that the cold impersonal lines of the EEG really test personality. They say "We are now studying the EEG as a complex of inseparable and variable factors, their relationship and associated activity. We are trying to evaluate the expression indicated by the complicated features of the brain-wave record and relate it to the individual's behavior and personality To make a very long story short, it was found that, if two individuals differ greatly from one another in EEG patterns, they also differ in fundamental personality." They reached this conclusion after studies in collaboration with the Chicago Institute for Psychoanalysis.

The methods taken together most frequently utilize as is seen (a) visual stimuli; and (b) motor kinaesthetic tasks. That is, the investigator (a) stirs up images, which is to say, memories. Or he induces the child (b) to act out his inner needs. The wide applicability of these two approaches reflects from the experimental standpoint the relevance of old memories and of acted-out material to the deeper personality structure, as established by clinical investigators. The considerably lesser use of verbal stimuli, although they were first in the field, may well point to the transformation which verbal symbols go through in any culture, pro-

ducing a wide gap between the conventional meaning of the word and the private value entertained by the patient. A fourth kind of stimulus has been tried, in the auditory field. It consists of experiments with the "tautophone", sometimes called the "musical Rorschach". Certain sound sequences or passages from music, usually classical, have been recorded and played. These experiments are of very recent origin; so far the progress with them has not been promising. To what extent tactual experiences may be of dynamic value in such methods as finger-painting or plastic construction does not appear to have aroused the interest of investigators; or at least this possibility is not subject of comment.

The best formal discussion of the projective technique is that of Lawrence Frank. He groups the various procedures in accordance with the kind of activity they elicit from the Subject. To wit: (a) Constitutive. The material is plastic and unstructured and the Subject is free to manipulate it; e. g. finger-painting, clay, the Rorschach test. (b) Interpretative. The material is more structured; the Subject must interpret it meaningfully to himself; e. g. pictures. (c) Cathartic. The Subject discharges his feelings onto the material, as in play or puppet shows. (d) Constructive. The Subject builds with given material; e. g. blocks (The Mosaic test belongs to this category).

In evaluating projective methods as a general procedure, the first question is that of definition. In what sense is the term projection being used? What does it project? The investigator's orientation to this question is necessarily tied with the concept of personality. As is to be expected, however, in the earlier stages of scientific endeavor, actual experiments are well ahead of definition. Most of the writers do not, in fact, use the term even though other investigators judge their work as projective, seeing that they list their reports among papers dealing with "projective" methods. Frank has offered one formal definition: "A projective method for study of personality involves the presentation of a stimulus-situation designed or chosen because (of) . . . whatever it must mean to the personality who gives it or imposes upon it, his private idiosyncratic mean-

ing and organization. The Subject then will respond to his meaning of the presented stimulus situation by some form of action and feeling that is expressive of his personality."

The great merit claimed for the projective methods is their "objectivity". Hence the great hope with which investigators in personality have had recourse to these techniques, especially in so far as they conform to Frank's specifications. To the extent that the Subject really expresses only his own private meaning, these tests have succeeded in eliminating a priori and conventional meaning, which produce so much error in questionnaires and similar "personality tests". In actual practice, however, this "objectivity" is a consummation still devoutly to be wished. The interpretations of productions obtained from the patient, whether child or adult, can and do vary from Examiner to Examiner. Since an empirical background for many of the tests is lacking, many Examiners indulge in their own free associations added to the subject's responses. So the "diagnosis" is in reality a projection of the Examiner's, not of the subject's personality.

It must be also conceded that projective techniques have so far been found valuable chiefly in eliciting broad differences. We too frequently do not know, therefore, what we miss in the psyche of the child; yet it may be a material of the greatest relevance to his personality problems. There is some evidence that the less structured the material (the Rorschach test, possibly the cloud pictures), the greater is the probability of obtaining significant and detailed material. Here too the problem of validation cannot be overemphasized. Without a preceding groundwork of material, experimentally tested or empirically verified (by clinical material), "personality descriptions" are not exactly objective.

The potentialities of the methods are, however, well established. The Rorschach test has shown this. So also have more recent published letters of Harry Murray's group and Levy's controlled work with play and toys. The foundation has thus been laid for obtaining constancy of patterns, impersonally judged, with regard to that more substantial portion of the personality

which consists not only of "colorless" intellectual statements but also of those complexes of reactions in which effects, unconscious needs, and intellect all intertwine and express themselves in the individual's behavior, whether maladaptive or adequately adaptive to his environment.—S.J.B.

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PROJECTIVE TECHNIQUES. Definition: Projective techniques are usually classed in the general category of measures of "personality". While it is true that through their use much can be learned about the general level of intellectual development reached by the subject, such information is more or less incidental. And although intellectual functions such as comprehension, judgment, analysis, reasoning, etc. are often if not usually a part of the projection process, these are not quantitatively measured in the same sense as they are by "intelligence" tests. However, it is possible through projective techniques to determine the qualitative role which intellectual traits play in the structure of an individual's total personality.

Even before the recent upsurge in experimentation with projective techniques, different conceptions of the projection mechanism were held by various workers in psychology and psychoanalysis. It is not proposed to set forth these differences here; but the wide variety of methods now labeled "projective techniques" make it imperative to realize that a restriction of the

term is both necessary and desirable.

In Warren's "Dictionary of Psychology" (34) three definitions of projection are listed which are of particular concern to psychologists: "(1) the reference or localization of sensations to the source or place of origin of the stimulus, especially the localities of perceptions beyond the observer's body; (2) the ascription by an individual to other persons of experiences similar to his own; (3) the tendency or act of ascribing to the external world repressed mental processes which are not recognized as being of personal origin, as a result of which the content of these processes is experienced as an outer perception."

The first of the above definitions is intended to be restricted to technical use in the psychology of perception; the second is a "social" definition; while the third is designed as psychoanalytic. What might be called a displacement of response is common to all three, but it will be noted that the concept of repression is included in the third. In addition some authorities, for instance English (12), have included desires and values as components of the mechanism: "the process of attributing one's own desires or baser qualities to others as a defense against acknowledging them as one's own, or to lessen one's own sense of guilt." The latter definition, it can be seen, is of a more Freudian tinge than are the others.

While the concept of projection has been developed—one might even say "discovered"—largely by Freud and other analysts, there is no reason why the term necessarily must always carry psychoanalytic connotations. As an example, Freud himself states: "But projection is not specially created for the purpose of defense, it also comes into being where there are no conflicts. The projection of inner perceptions to the outside is a primitive mechanism which, for instance, also influences our sense-perceptions, so that it normally has the greatest share in shaping our outer world" (15, p. 857). If then such descriptives as "repressed," "baser qualities", "defense", "guilt", are eliminated from a definition of projection there remains a description which does not attempt to explain how or why the mechanism operates, and which re-

sembles Warren's second definition quoted above. If this in turn is necessarily broadened, a working description of the psychological process would read: the act of ascribing to other persons, objects, or stimulus patterns subjective experiences similar to one's own.

Accordingly, a projective technique would be one which allowed the process of projection as described above to take place, or to take place more easily than in non-test situations. But an examination of the current literature on "projective techniques" reveals that the term is not being confined to anything like the rather rigid definition given here. For that matter, many studies by psychoanalysts do not even adhere to a strictly analytic definition. Instead, almost any method or device which elicits a child's attitudes toward or interpretations of certain social situations has recently been referred to as projective technique. But an individual can express his attitudes without "projecting" them. And merely because a given method encourages a child to talk freely—desirable though this is—it is not therefore a projective technique. Similarly, the successful study of certain aspects of personality which are with difficulty verbalized by children is not necessarily one which uses projection. Neither should a method which produces only identification be called a projection method; nor one which produces only emotional release.

Essentials of the technique: Many writers have noted that projective methods are fundamentally free association methods. As such they have the common characteristic of being able to act as a "trigger" device—to "set off" the organism on a series of responses which are thenceforth largely determined by the free associations which are aroused. Thus it goes without saying that the subject must not be influenced by the examiner during the test.

L. K. Frank, who is credited with coining the term projective technique, says: "A projective method for study of personality involves the presentation of a stimulus-situation designed or chosen because it will mean to the subject, not what the experimenter has arbitrarily decided it should mean (as in most psychological experiments using standardized stimuli in order to be 'objective'), but rather whatever it

must mean to the personality who gives it, or imposes upon it, his private, idiosyncratic meaning and organization" (13, p. 403). Further, it elicits from the individual "what he cannot or will not say," frequently because he does not know himself and is not aware what he is revealing about himself through his projections" (p. 404). The latter point, i. e., that the subject is unaware that he is exposing his personality, is apparently one of the principal criteria of the method. The requirement cannot be met in full, because some individuals are "on guard" in almost every situation with respect to revealing inner feelings. However, a good projective technique overcomes this difficulty by eliciting important information which the subject rather uncritically believes to be neutral in character, or perhaps serving some other purpose.

Updegraff (33) says that the techniques "have at least two common characteristics: (1) the situations are so presented as to stimulate conversation and action by the child so that he will unknowingly betray his feelings and ideas, and (2) they are so simple and adaptable that the child can see himself as a factor in the situation and thus interpret it in light of his life and his own personality."

The same factor of unawareness is stated somewhat differently by Horowitz and Murphy (16) when they say that projection methods "avoid committing the subject upon issues explicitly formulated." Thus it can be seen that the methods are the indirect approach rather than the direct.

Rosenzweig (23) believes "they all depend upon the subject's objectification of his subjective processes." Dubin (11) notes that "The procedures are techniques which stimulate the imagination. . . . All are in a sense non-verbal measures of social attitude." (Techniques which require the subject to speak or write about his imaginings are obviously not entirely "non-verbal". It is true, however, that extremely few projection methods have as their point of departure written or spoken material. One example of the latter would be unfinished stories which are completed by the subject).

The methods are not "exact" or "objective" in the usual sense of yielding a numerical score. Nor are more than

a few "standardized" in anything like the commonly accepted manner. Even the directions to the subject are not formulated, because it is considered more important to have the subject at ease than to adhere blindly to a set of directions. And as for the usual supplement on "how to interpret the test"—this is left for the most part up to the examiner, who presumably must therefore be—and actually should be—a highly skilled person. Most experimenters claim this state of affairs to be a virtue rather than a disadvantage. For another characteristic of the method is said to be the fact that the "total personality" is revealed, rather than a set of discrete traits. The dynamic aspect of personality is underscored, although certain traits often are shown to play a dominant role in a given personality structure.

Almost all of the techniques are at present administered individually, although some, for example the Rorschach, may be adapted to groups.

It is held by some workers that the responses elicited by a projective technique should be easily observed, easily registered, and easily scored. These conditions, however, are not fulfilled in many currently reported experiments, and thus must be considered as desiderata which still lack complete attainment.

Media and methods: Before attempting to describe the various methods which have been developed to elicit projection it must be mentioned that anything a person says or does at any time, in any situation, may yield valuable clues to his personality structure. And among such everyday manifestations can be found numerous instances of projection. It is, as Freud says, a very common mechanism, weaving in and around almost every set of feelings, hopes, desires, fears, and attitudes which go to make up the human personality. Definitely it is not to be thought of as appearing only in a test situation or during the course of a technical psychoanalysis. Murray (22) recognizes this when he utilizes casual conversations with his subjects as one way of obtaining personal data—often very revealing data.

To dignify methods by the title of "techniques", however, means that they should be restricted to those which,

in a dictionary sense, are "especially appropriate to" the field in which they are to be used. It can scarcely be claimed that casual conversation, ordinary observation of children, recording of expressive movements, and like methods are "especially appropriate to" the task of stimulating the projection mechanism. Therefore such casual methods will not be described in the discussion which follows, although their value as supplementary sources of information is not to be denied.

No attempt will be made to describe every projective technique which has been reported in the literature. Rather, representative studies will be described briefly in order to show the scope and variety of procedures.

Inherent in each of the media used is a characteristic which is of prime psychological importance, namely, the amount of freedom and latitude of response elicited. Usually this factor is referred to as the degree of formal structure possessed by any given material or stimulus situation. Horowitz and Murphy (16) use the term "plasticity" to mean the same thing, but structure is by far the commoner of the two.

There is little commonality of response to unstructured material, whereas the responses to definitely structured material are highly conventionalized. Therefore unstructured situations such as those making use of clay and finger paints have the advantage of encouraging spontaneous, "free" associations in which those anxieties and fantasies presumably of greatest concern to the child are brought to light. On the other hand objects with common, easily perceived meanings, such as toys, can be used to restrict the child's responses to an area which the examiner thinks is important in the case at hand. The difference between structured and unstructured stimuli is obviously one of degree. "Unstructured" situations do not long remain without meaning, as the Gestalt psychologists have amply demonstrated, and thus may be thought of as one end of the continuum. At the other end are the highly meaningful objects. Already it is clear that the clinician must be prepared to choose a technique having the proper degree of structure for his particular purpose.

The following media are typical of those which commonly are used in the development of projective techniques.

1. Word association tests. Historically the word association test may be thought of as the forerunner of all projective "techniques"—unless the psychoanalytic interview itself be called a technique. Free association is more apt to bring about projection than is controlled association. The subject is asked to respond with the first word he thinks of upon hearing the examiner say a word chosen from a prescribed list. Certain kinds of responses are "complex indicators" such as delay in answering, unusual replies, repetition of the same stimulus word, perseveration, stammering, blushing, etc. The procedure may or may not bring forth projection responses. Furthermore, the short, one-word answers in themselves give little opportunity for projection to show itself, and must be considered merely as "leads" to be pursued by the examiner. These are among the reasons why word association has been more or less superseded by other methods which perhaps are more stimulating to the imagination, or more interesting to the subject, or more dramatic.

2. Play techniques. Most of the work with children's projections has utilized the play situation in some form, toys and dolls being the most popular media through which the responses are elicited. Levy (18) attempted to standardize the play situation in his studies of sibling rivalry, but in doing so thus prevented the arousal of a fully spontaneous response. He presented his now famous amputation doll (a doll which can be taken apart by the child) under two conditions: (a) when the same situation was arranged for each child without comments by the examiner; (b) when suggestions were given as to whom the doll represented. Apparently he obtained fuller responses from the second method. Besides the projective information which threw light on the child's family relationships, Levy says: "The release of hostility on the doll was used as a direct therapeutic method."

Despert (10) put on one side of the room four dolls representing a mother, father, baby, and boy (or girl, corresponding with the sex of the subject), and on the other side three bedrooms,

for parents, baby and child. The child was allowed free play, the experimenter questioning him while he played but refraining from influencing him in so far as possible. "Questions bear on the what, why, how, where-from of the child's activities and speech utterances." The results were mainly useful in showing the child's adjustment to the family situation. Many of the data were not concerned with projection. Identification and aggressive reactions were the most prominent responses, but it was noted that "specific themes" differentiated individual children. Noteworthy is the fact that Despert used the information from the doll method in conjunction with a wealth of other data concerning the child. This tendency not to rely too heavily on the results of a single technique is found in most of the clinical studies of children described below.

Conn (8) notes the difficulty of talking to a child about personal problems and describes the "play interview," in which he asks "why the child makes the doll do and say what it does when it does." Since the child makes the doll "responsible for all that is said and done" Conn claims that he (the child) "can view objectively what is going on, at the same time that he is actively participating in an intimate discussion of his own attitudes."

Solomon's work (28) is an example of using the play situation primarily for therapy. The examiner creates the situation and gives therapeutic suggestions as the child plays. However, "the therapist at one time is supposed to let the child feel that the play concerns him". The therapeutic aspects of this technique consist of "(a) the aeration of the thought processes of the child; (b) the overt expression of hostilities; (c) the alleviation of guilt; (d) the incorporation of therapeutic suggestions; (e) desensitization by constant repetition of the same material".

Baruch (3) has worked with pre-school children using many of the toys usually found in the nursery school and kindergarten. While seemingly giving most attention to the release of aggressive feelings, she does describe some projective responses, especially those concerning the child's feelings toward his family. For the most part the examiner passively allowed the

child to play as he wished—she "commented during his play that he could be as mean as he wished". Some children accepted the reality of their aggressive feelings, while others showed evidence of guilt feelings by denying that they wanted to hurt anyone else. One interesting application of the knowledge gained was the attempt to help the parents solve their own personal problems which the children hinted at during their play.

3. The drama. The use of the drama with children can often be thought of as a "play" situation; yet the psychological setting is rather unique. Bender and Woltmann (4) have used puppet shows to good advantage in their work with problem children. The technique was found to "allow for a free expression of infantile aggression and permit an unusually facile projection of the child's problems into the puppet characters". Certain plays in their original form proved to be excellent vehicles, while others were modified by psychiatrists. Some were written by the children—who incidentally made their own puppets and produced their own plays. The procedure utilized the group situation. As the children watched the plays they were permitted, even encouraged, to make remarks about the characters, give advice, shout approval or disapproval, etc. Projection was shown (a) in the reasons the child gave for identifying himself with the character in the play, (b) in the remarks made by the children as they watched the plays, (c) in the child's description of the play, (d) in the child's answers to questions about the play.

Dubin's (11) procedure could easily be adapted to older children. He used eighty toys representing four groups: (a) war, (b) public service, (c) labor, (d) travel and entertainment. The subjects were told that this was a study of imagination and then were asked to construct two dramatic scenes with the toys, one showing the world as he sees it today, one showing it as he would like it to be. The scene was later interpreted to the experimenter by the subject.

Curran (9) used the drama with adolescent boys who wrote and acted in their own plays. After a play was over, it was discussed by the psychia-

trist and the boys. The psychiatrist asked certain questions, and the boys' remarks were noted. The author of the play came in for special questioning. As they talked, several of the children usually revealed specific problems. Identification and projection were shown by the roles which certain boys chose, but catharsis was "the most important function of the plays."

The psychodrama as developed by Moreno seems to have wide possibilities of application. In this technique the subject acts out troublesome life situations in the "therapeutic theatre." Sometimes the actual persons he is having difficulty in adjusting to act with him; at other times the psychiatrist and his assistants play the parts. Instead of playing "himself", the subject may be asked to enact the roles of several people with whom he has emotional ties, e. g. his mother or father. When doing so he is apt to project his own feelings into the role and assign them to the person he is portraying. Soliloquy (the "aside") is in some cases "used by the patient to duplicate hidden feelings and thoughts which he actually had in a situation with a partner in life. Its value lies in its truthfulness. Its aim is catharsis." The psychodrama is not written out in advance, and this "spontaneous character of psychodramatics makes it hard, almost impossible, for the actor to keep his private ego out of the role." A person must be prepared psychologically to present or take part in a psychodrama—"some patients do not like to put certain parts of the psyche on show". The effectiveness of the method lies in its combination of release plus reeducation.

Franz (14) states that the psychodrama technique can be used successfully in obtaining case history material. "The subject does not describe or talk about his problem to an interviewer. His report is made directly, just as if he were interacting in a real life situation."

4. Ink-blot. The Rorschach is undoubtedly the most widely used and discussed single test designed to elicit free association. The rather wide scope of its usefulness is described by Lewis: "The Rorschach method is remarkably effective in estimating the intellectual status of an individual; in revealing

the richness or poverty of his psychic experience; in making known his present mood; and in showing the extent of his intuitive ability as well as in disclosing special talents and aptitudes . . . it detects anxieties, phobias, and sex disturbances, as well as more severe disorders, and serves as a guide for appropriate treatments." The test is also of aid, in conjunction with other information, in the clinical diagnosis of brain injury and convulsive states. Ten ink-blot, some colored, are presented singly to the subject who is asked to tell what he thinks they might be. "Each response is scored for three different test factors to determine: 1. What part of the blot contained the response, that is, did the subject use the whole card or a portion of it? 2. What determined the response? Was it the shape of the portion interpreted, the color, the movement, or the shading, or any combination of these? 3. What was the content of the response? Animal? Human? Object? Etc." (17). The total number of responses to the ten cards is of little significance, but the proportion of the whole falling into certain categories is of importance. Other factors of diagnostic value are: number of rejections, time before making a response, average time consumed in making responses, percentage of animal responses, popular and original responses, etc.

5. Pictures. The mere use of pictures does not insure the calling forth of projective material. Some experimenters have used pictures to bring out children's attitudes of right and wrong, judgments as to which of two things is "best", or most liked, or to determine which of two children is like himself. The most that can be said for such methods is that they may produce projection. Very often the process involved is largely identification.

Probably the most productive technique involving pictures is that of Murray (22) in his well known Thematic Apperception Test. A carefully selected set of pictures is given one at a time to the subject, and he is instructed to write a dramatic fiction about each which will tell what might have led up to the situation as depicted in the picture, what the scene is about, and the probable outcome. Murray says: "The test is based upon

the well-recognized fact that when a person interprets an ambiguous social situation he is apt to expose his own personality as much as the phenomenon to which he is attending. Absorbed in his attempt to explain the objective occurrence, he becomes naively unconscious of himself and of the scrutiny of others and, therefore, defensively less vigilant."

Although Murray's work was done with college students, other workers (1, 24) have attempted to modify the test for use with children. Symonds (30), working along similar lines, used a set of 81 pictures in an effort to discover what factors go to make a picture suitable for projective work with adolescents. His conclusion is: "Those pictures are most serviceable which have a minimum of detail, are vague in theme, incomplete in content, and suggest characters with which those telling the stories can identify themselves."

5. Miscellaneous techniques. Less work has been done with a large number of other media than with those described above, but the fundamental principles are the same. Bender and Woltmann (5) used clay with very young children. Liss (19) describes the possibilities of art, a field which at present is much better explored with psychotic adults than with normal children. Murray (21) and his workers have devised a number of techniques in addition to the Thematic Apperception Test. Story telling methods which do not use pictures are reported by Blos (6) and Wright (35). An ingenious technique which appears to have interesting possibilities is one which uses unstructured sound stimuli. Skinner (27) invented the phonographic device (verbal summator) which repeats recorded vowel patterns. Shakow and Rosenzweig (26) have renamed it the tautophone. The subject is asked to interpret the sounds he hears, and his answers can be scored along lines similar to the Rorschach. Trussell (32) has also experimented with the device.

Value of the technique: Two distinct uses of projective techniques stand forth clearly—for diagnosis and for therapy. There is hardly a personality trait not uncovered by one or more of the methods. Their success in locating pertinent information from both

"conscious and unconscious layers of motivation" (Horowitz and Murphy) seems due largely to the indirect approach. Symonds (31) contrasts the method with the use of questionnaires, saying the latter do not take into account the factor of motivation, and thus produce distorted responses because of the individual's desire to create a good impression. Projective techniques, it is claimed, divert the individual's attention from himself and onto the stimulus, thereby reducing the tendency toward self-reference. Others point out that while questionnaires give an overall estimate of the amount of total maladjustment, projective techniques are more diagnostic, help locate the cause of the difficulty.

Most of the media are interesting to children, so that rapport is readily established. The children are free to respond as they wish—sometimes the examiner is not even present. And writing is usually not necessary. The air of freedom, with no feeling of censure, is one of the strong points of the method.

The therapeutic value is twofold: the techniques provide an opportunity for catharsis and a chance for the child to see and accept his actual role in an emotion-producing situation.

Murray (22) points out that projective methods are, in a sense, substitutes for the much more time-consuming psychoanalytic methods, and, like the latter, may show "the operation of traces established in childhood."

Despite their many advantages, projective techniques have their limitations. Those who object to psychoanalytic interpretations will find much to criticize the methods which deal with the projection mechanism. Rosenzweig (23) comments: "Considerable skill is involved in the interpretation of the data obtained and this represents a serious limitation. In uncritical hands the invocation of fantasy to explain behavior can become so far-fetched as to be itself fantastic. The only safeguard against such a misapplication of the procedures is a sound background in scientific parsimony and a thorough acquaintance with specific alternative factors underlying behavior—physiological, neurological, and psychological. Besides this quantitative danger there is, moreover, a qualitative one. It is

easily possible in making interpretations of projective material to project one's own fantasies in the process. The psychoanalyst would undoubtedly maintain that for most persons who are to use these procedures, just as for prospective psychoanalysts, a preliminary period of self-analysis is necessary in order to prevent reciprocal projection."

Another disadvantage claimed is that the methods lack standardization. In some cases, as Horowitz and Murphy (16) point out, it is possible to establish norms and thus pick out deviates for further study. But in many of the techniques standardization will be difficult. In some it may be actually undesirable.

It is said that a child's responses in a free test situation may reflect more his recent experiences than his "true" feelings. This is undoubtedly so, but usual clinical procedures will bring out and compensate for such cause-effect relationships.

Certain caution must be observed in the use of projective methods. They are not meant to be applied indiscriminately or in routine fashion. Always the factor of individual differences must be uppermost in the mind of the examiner. Some children may reveal more of their personality while playing with clay, others while suggesting action in a puppet show. The results must always be checked with the child's actual situation if this is at all possible, for the temptation to generalize from the test responses is great.

The rapid rise of projective methods in recent years is indicative of a trend in modern psychology, namely, toward a better understanding of the more subtle aspects of motivation, and toward a clearer realization of the integrity of the total human personality.—E.W.S.

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PUBERTY. The period of developmental changes preceding the menarche has been called the PUBERTAL PERIOD; the years following the menarche, ADOLESCENCE. Puberty should be considered as a stage in a child's sequences of development to maturity. The prelude to puberty consists of a series of changes which take place in the skeleton, in weight distribution, and in the reproductive organs. These preliminary changes have too often been neglected in the study of puberty.

The onset of puberty is definitely marked in the case of girls by the men-

arche—the first appearance of the menses. The menarche indicates that the secretion of ovarian and other hormones has increased, resulting in changes in the uterus necessary for menstruation. At the same time the growth-stimulating action of the pituitary secretion has diminished. The onset of puberty is less definitely marked in boys by the appearance of secondary sex characteristics, but their sexual maturity, too, is evidenced by a rapid deceleration in growth. A rise in the curve of basal metabolism has been reported by some investigators, but not supported by others who, however, concede "some evidence of a less rapid decrease in the relative heat production at 14 to 15 years." Change in voice, resulting in a normal loss of control, is brought about by a combination of developmental changes. Puberty merely reflects a physiologic state which is attained at different chronological ages by different individuals.

There is a wide range of ages at which puberty may normally begin—in girls, from 10½ to 17 years; in boys, from 12 to 17 or 18 years. The central tendency is usually stated as about 13½ years of age for girls and 14½ for boys. A number of factors have been suggested to account for this variability. Among the factors alleged to lead to an early onset of puberty are a warm climate, the increasing tempo in life, change in environment, the excitement of city life, superior socio-economic status, the hereditary factor of having a mother who matured early, and race. For example, Franzblau obtained marked differences in maturing between Danish and Italian groups. Although these factors may influence, to some extent, the age at which sex functions and characteristics make their appearance, undefined psychological factors may be more important than the environmental conditions mentioned.

The first appearance of sexual maturity, known as puberty, does not necessarily make reproduction possible. In fact, puberty may be immediately followed by an interval of one, two or three years in which actual ovulation may not occur—a period of "adolescent sterility."

Various problems associated with pu-

berty likewise have their developmental aspects. Obesity, for example, usually has developed in children before puberty and is not magically corrected with the appearance of puberty. Some change for the better is often noted during the period of rapid growth preceding puberty and is sometimes erroneously attributed to glandular therapy. But unless the disturbance in the maturation of the total personality is corrected, the obese child is likely to continue the overcreating and inactivity which serve as his main sources of satisfaction, and thus to preclude all possibility of his becoming a slim and athletic adolescent.

A number of problems relating to athletic activity arise during this transition period. In general, a child's participation in games and sports should be considered in relation to his general health condition and to his other activities. Many children of this age have given up childish outdoor amusements and have not yet begun to engage in adult sports. The result is that their outdoor exercise is extremely limited. In these cases enjoyable outdoor recreation should be planned by the school or other community agencies.

Special problems are created for the child with physical handicaps. The slender, narrow-chested child who is unable to engage in strenuous games and sports should not undertake activities beyond his strength. The child who thinks he is unable to exercise, but actually has no cardiac lesion or other organic disease, should be relieved of worry over his physical condition and encouraged to participate in enjoyable exercises that do not cause undue fatigue. The child who has congenital heart disease and rheumatic heart disease free from active rheumatic infection may exercise as much as he feels able without undue fatigue. If active infection is present, he should rest in bed. Thus children of this age will not be made unhappy by unnecessary limitation of their play nor will they be allowed activity when their condition requires rest in bed.

The emotional and social development at puberty cannot be distinguished from the changes usually mentioned in connection with adolescence. It is significant, however, that puberty represents a transition point in these

aspects of development. Adults cannot expect consistency in the pubescent's behavior. He is exploring many interests and trying out many kinds of activities. Neither can adults expect emotional maturity, for there is an emotional lag: the child does not gain emotional maturity instantaneously with physiological maturity. Thus he may be physiologically mature but emotionally immature. Using the Rorschach test, Hertz found that the fifteen-year-old pubescents were reliably more introverted and expansive and less stable emotionally than twelve-year-olds of like pubescent status.

Preceding puberty the child is more dependent on his little group of contemporaries than on adults. He goes through a period of avoiding and resisting adult suggestion or solicitude. Later he tends to return to adults for emotional support. These adults are usually persons of the same sex—club leaders, teachers, and others who are not influenced by the memory of earlier dependent relationships and are able to treat him on a grown-up level. It is a clever parent who will give the child the support needed to help him to obtain status with his contemporaries and achieve a balance between dependence and independence. These changes in status and social distance frequently generate emotion which is expressed to the dismay of parents and teachers. "At about age thirteen (eighth grade) the majority of the girls exhibit behavior suggestive of emotional upheaval characterized by desultory interest in the objective environment; unorganized, unoriented activity; excessive response in the form of screaming and giggling to mild, ordinarily ineffective stimuli; and excessive egocentric interest in their own persons. The writer would hazard the opinion that this behavior was symptomatic of changing values. After about a year and a half most of the group had subsided into a fairly adult pattern. Boys as a group did not manifest any comparable degree of disorganized activity though they were similarly observed over a period of seven years (from eleven to seventeen)" (Caroline McConnell Tryon, *EVALUATIONS OF ADOLESCENT PERSONALITY BY ADOLESCENTS*. Monograph of the Society for Research in Child Development,

Vol. IV, No. 4. Washington, D. C.: Society for Research in Child Development, National Research Council, 1939).

At puberty the child is still dependent within the family group; at the end of the adolescent period he is usually ready to assume responsibilities in his own new family group. Thus "puberty is the initial stage in the relatively rapid shift from dependence to independence in the parental group."

The time interval between puberty and adult responsibility varies with the culture. In some primitive tribes adult responsibilities are assumed simultaneously with pubertal rites. In times of war the interval is shortened; children are required to grow up quickly. Rural children and other children who early participate in adult responsibilities find that puberty marks, not the beginning of a new life, but merely a continuation of their gradual incorporation into adult society. For other children puberty involves sudden and profound changes in their life pattern. These changes seem to be determined to a large extent by group expectation and social patterns.

In order to make this transition period less subject to storm and stress, parent and teachers may cooperate in the following ways: They may help children during the years preceding puberty gradually to develop freedom with responsibility. They may reduce academic and social pressures during the transition period. They may acquaint children in the first decade with the facts of reproduction as their questions naturally arise, and before puberty give girls sufficient information not only to meet the hygienic needs of their first menstrual period, but also to understand its physiologic, biologic, and social significance. They should realize that each boy and girl matures at a different rate and by a somewhat different process and will study the individual developmental patterns which have so much significance for health and vitality. They may help children to assert themselves courteously with consideration for others, and allow them freedom to carry out any ideas that are not harmful to themselves or others. They may try to control these children's behavior through ideals rather than by nagging and admonitions.

Pediatricians and school physicians should not only give careful routine examinations at this age and make expert diagnoses, but also be concerned about the child's daily program of living—his nutrition, rest, physical activity, academic load, and opportunities for release of tension. Specialists should pay attention to the psychological as well as the physiological development at this time of life.—R.S.

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PUNISHMENT. Punishment consists of certain definite measures undertaken by one or more people to correct or ameliorate the undesirable activity of a person or of a group of people. The direct aim of punishment is therefore, to modify the behavior in a certain prescribed direction. Punishment has certain indirect aims, however, which fall into two large groups, each group representing a different point of view.

Seen from one point of view, reforming an individual's or a group's behavior is necessary for the maintenance of an equilibrium in an organized society. From this standpoint, the individual is a small part of society and his conduct is important only when seen in relation to its effect on the community as a whole. The punishment which is guided by this point of view is meted out according to the juridical code of each state. Judges, criminologists and sometimes sociolog-

ists have the responsibility of administering punishment in order to preserve order in the state.

When looked at from the other point of view, reforming the behavior of an individual or of a group is necessary in order that the psychological structure of the individual or the group be modified in the direction which is considered "right" or healthy. From this standpoint, the individual is the center of interest. One must consider to what extent punishment succeeds in modifying the individual's character and whether the modifications are those which were originally intended. This type of punishment, which might be called educational, is not codified. It has been instituted by tradition and habit. It is appropriate that the psychologist should investigate the efficacy of this type of punishment.

This article shall be limited to this latter type, educational punishment, and questions dealing with criminology and jurisprudence shall be left out. The concept, educational punishment, however, is vague due to the use of the word punishment in daily life. It is necessary to redefine it. In doing so we find three characteristics which are indispensable to anything that can be properly called educational punishment. If any one of these three is lacking, the psychological situation is changed and one inevitably becomes involved in questions which are fruitless and primarily semantic. The concept of educational punishment, therefore, must fulfill the following criteria.

1) It is necessary that the person who does the punishing have the intention to punish. By this definition we eliminate all those circumstances which have a punitive effect by chance, such as the unpleasant occurrences which follow if one has not sufficiently taken into account the inevitable effects of one's actions. Punishment is an intentional social act. The natural result of an action which is poorly adapted to natural laws or to society's requirements is not punishment. By limiting the concept in this way we do not wish to give the impression that the punishing individual needs to be a real person. If the person who is punished projects a retaliatory intention on Fate or God, he has been punished.

2) The person who is punished must

be aware of it and must experience painful emotions. In emphasizing this point we exclude from our discussion punishment which was sought for by the perpetrator of the undesirable act, as well as the entire problem of "need for punishment". Punishment is not a mechanism which alleviates guilt feelings but an occurrence which, to a certain extent, evokes them. Furthermore, it points out the difference between the moral attitude of the person who is punished and that of the individual who carries out the punishment. This does not limit our concept of punishment to such concrete punitive measures as beating or locking up the individual. If a person is aware of painful emotions which are the direct result of another's having indicated disapproval of him in any concrete action, the individual has been punished.

3) The action which preceded the punishment must be of such a nature as to evoke disapproval. This excludes those heroic actions wherein punishment is invited for the sake of saving another person or preserving an ideal. Punishment is not the voluntary acceptance of a disagreeable situation but society's enforced demand that the individual suffer the consequences of his behavior. This limitation does not exclude unjust punishment. If an action is considered "wrong" by the punishing authority and punishment for it is meted out, the individual has been punished.

When tested by these three criteria, punishment is seen as social concept which depends on the relation between the person carrying out the punitive act and the person who serves as its object. Hence there can be no such thing as absolute punishment. It is always in terms of the interpersonal relation. This explains why there is no codification of educational punishment. Psychological investigation of punishment cannot, therefore, study punishment as such, but can study only the relations between the people involved and the punitive measures.

In order to simplify the discussion we shall confine ourselves to those situations where punishment is carried out most frequently and where it seems to have a maximum efficiency, that is, in the educational punishment of the child. Here the individual who is punished is

one who is still in the developmental period, and continues to be almost dependent on his environment. The punitive individual is the person in authority, either the family authority in the person of a parent, the school authority in the person of the teacher, or the spiritual authority in the person of God. Investigation of these problems must be undertaken from the following points of view.

1) The psychologist raises the question as to what is the mental representation of punishment in the child and what is the effect of punishment on his psychic apparatus.

2) The educator wishes to study the efficacy of the punishment, that is, the possibility of modifying the undesirable behavior by punishment and reforming in this way the mental structure of the child.

3) The clinician concerns himself with the effect of an educational system based on punishment on the development of the human personality.

4) The sociologist focuses on the influences on the configuration of society which are exerted by an educational system based on punishment.

These four points of view will be discussed independently. The order is predetermined because the answer to the educator's question depends on that to the psychologist's question. The answer to the clinician's question depends on that to the educator's and, finally, the answer to the sociologist's question is almost entirely a summary of the results from the other questions as, in this sphere, the available data are scarce and insufficiently verified.

1. THE PSYCHOLOGICAL EFFECT OF PUNISHMENT. In discussing the effect which punishment has on the child, one must first consider the child's attitude toward punishment or, as we previously said, the child's mental representation of punishment. The child's attitude towards punishment can be determined by observing which punishments he considers justified and natural and which he feels to be unfair. Piaget (1) shows that the mental representation of punishment varies with the child's age, and that it changes during the child's development. He differentiates between four different kinds of punishment, which are based each on a different principle.

a. That which is based on revenge. Society revenges itself for undesirable behavior in subjecting the child to painful measures such as beating him or locking him up. The punishment signifies: "You were bad. You must suffer."

b. That which is based on the Talion law. The child must suffer the same discomfort which was suffered by the other person because of his wrongdoing. If he broke his sister's doll, one of his toys is destroyed. The punishment signifies: "You hurt somebody else. You will therefore be similarly hurt."

c. That which is based on the principle of cause and effect. A wrong action has natural consequences. One must bear them. If one breaks the window in the room one must suffer cold. The punishment signifies: "You did something which brought disagreeable results. You must take the consequences."

d. That which is based on rational explanation. One did not do what one should because one did not know any better. Knowledge of the effects of a wrong act will prevent repetition of this act. This is no longer punishment in our definition of the word but an educational measure which brings about appropriate behavior on the basis of a rational understanding of the act.

Piaget's experiments show that the child between five and eight considers punishment by revenge as justified. Such punishment corresponds to his general moral attitude which evaluates an act morally according to the revengeful effect which it produced. As punishment and bad behavior are necessarily bound to each other in the child's mind at this age level it is not surprising that he finds punishment by revenge natural. At a later age (eight to twelve) the child rejects punishment by revenge and accepts punishment by retaliation. This is also explained by the moral awareness of the child at this age. Maintaining a certain moral realism, the child continues to consider the effect of an action as the criterion for its ethical value. The effect, however, is no longer considered bad because of the adult's punitive response but is recognized as undesirable because another person has been injured. The child offended a playmate by doing something unpleasant. It seems fair

to him that the playmate should retaliate in kind.

Only after age twelve does the child recognize moral responsibility. The connection between the intention and the ethical aspect of an action is now recognized by the child. Having achieved this degree of development he is enabled to understand punishment as the direct result of an action and can accept educational explanations.

One must restrain oneself from drawing a false conclusion from this picture of the child's development. It is incorrect to conclude that punishment must be adapted to the child's mental representation of punishment. On the contrary, awareness of the developmental process forces a very different conclusion. If the process of moral maturation has the tendency gradually to eliminate punishment by revenge and by retaliation, fixating the child to an infantile concept of punishment interferes with this natural tendency. The fixation occurs if the authority reinforces the children's own inadequate conception of moral behavior by using revengeful methods of punishment. If the punitive adult, by his choice of punishment, does not demonstrate any difference between his moral code and the child's, one of the child's most important incentives to abandon his infantile concepts of morality is lacking.

These conclusions have been verified by Lewin's (2) work. Lewin describes the effects of punishment on the child's psychic apparatus. He comes to the conclusion that punishment is a means of reforming a child's behavior or, more exactly, it is an instrument which elicits from the child the behavior the adult hoped for and which eliminates the undesirable behavior. By so doing, punishment replaces a natural hierarchy which the child built up for his actions. It replaces the child's interest in certain actions and his rejecting of other actions. It presents the child with a new classification of behavior, wherein the tendency towards action is less dependent on infantile needs and more on adult requirements. If this system of adult requirements is not introjected by the child, a conflict will be produced between his own needs and social demands. The child, divided in this way between his desires and his duties,

will inevitably develop tension. This tension will disappear when the educator succeeds in having the child consider his duties as if they were needs. For one series of duties this introjection is necessary. For another series, and this is a fairly large one, introjection of duties is dangerous. One must not forget that the moral world of every person, and therefore of the educator, is extremely individual. Everyone considers certain actions as forbidden or obligatory which seem neutral or indifferent to other people. If a person is forced to accept the moral world of another, his existence is narrowed sometimes to an intolerable degree. The moral code of every individual has its own history which makes it acceptable to himself. If this history is lacking, as it must be when another person's moral code is accepted in toto, the moral requirements become shackles. This is more dangerous when it occurs to people who are still in the stage of development. The adult discards what is intolerable for himself. The child and the adolescent, more dependent on their social environment, must find a compromise. The too frequent compromise is a mental illness.

Psychological investigation of punishment, therefore, demonstrates three facts.

a. One must be careful to select a type of punishment which is appropriate. If this is not done one retards or arrests development.

b. Punishment which is not accompanied by a real introjection of the prohibitions and commands produces tension.

c. An exaggerated reinforcement of introjection threatens the child's psychic equilibrium and can lead to a mental illness.

These points show that punishment has its dangers. One asks oneself if it is worthwhile to take the risks, if punishment is an efficacious instrument in reforming children's behavior.

2. EDUCATIONAL EFFECTS OF PUNISHMENT. Tolman (3), Valentine (4) and others showed that rats learn to adapt themselves to a difficult task more quickly if one points out their errors by introducing a disagreeable stimulus. One might say that the rat, in order to avoid punishment, learns more rapidly than if the motivation was

merely to learn or even to get a reward. The reflexologists describe this phenomenon with the formula: negative conditioning is more efficacious than positive conditioning. (5) One is tempted to apply this formula to human psychology, to say that punishment is the most efficacious method to adapt behavior to social and objective requirements. But experiments similar to those with rats were conducted on human subjects and indicated that such an analogy is dangerous. Rexroad (6) found that only a small percentage of subjects perform better when spurred on by a negative stimulus. Vaughn and Diserens (7) proved that the only favorable effects of punishment consisted in a speeding up of the activity. When punished the subjects worked more rapidly but they made more errors than before.

These facts are in complete harmony with Lewin's results, for it is obvious that tension will produce acceleration of an action, reducing at the same time the concentration which is normally required to avoid errors. When the effects of punishment are considered from the educational point of view, one sees that punishment rarely succeeds in actually reforming behavior and when it does so it produces other undesirable results.

Educators have known this for a long time (8). Schools have attempted to supplant punishment with more truly educational measures. Some not particularly recent statistics collected by Davis (9) show that corporal punishment in a St. Louis school was reduced from 14.11% to 0.17% during the years 1881-1924.

Having stated that punishment is dangerous as well as ineffective, it would seem superfluous to treat separately the effects which an educational system based on punishment might have on the development of the personality. Inasmuch as the educator's question, however, is limited to the immediate effects of punishment on human behavior, the pedagogical effects which we have discussed up to now concerned themselves only with that type of punishment which did not result in introjection of the prohibitions and commands. The picture is different when one introduces the possibility of an assimilation of the commands, of an

identification with the authority, of introjection of the moral principles, in short, if one considers the historical evolution of an ethical sense. This can be understood only by a clinical study of punishment.

3. CLINICAL EFFECTS OF PUNISHMENT. We have not yet attempted an explanation for the discrepancy between the effect of punishment on rats and on human beings. The rat's conduct is modified on the basis of mechanical training by trial and error, in other words, by conditioned reflex. An action is avoided after it becomes associated with a negative stimulus. It is repeated after becoming associated with a positive stimulus. The moral code of rats, therefore, is a system of punishment and rewards. The rat's general education and its specific moral education is brought about by a system of negative and positive stimuli.

Freud (10) was the first scholar to point out that the moral attitude in man has a specific evolution of its own. It consists in the formation of the Super-Ego which in itself is an introjection of the educational commands and prohibitions. The possibility of making such an introjection rests on the basis of the child's ability to identify himself with his parents after he has given them up as libidinal objects. Hence the development of a Super-Ego or of a conscience depends on the child's ability to identify himself with other people. Hayward and Wolf (11) have shown that this identification rests on certain conditions, some inherent in the child but others determined by the parents themselves. In order to become an object of identification one must first be an object, which means that one must be a person who shows a certain consistency in educational methods as a basis for the possible identification. This hypothesis does not exclude education by punishment, as long as the system is carried out according to permanent and constant principles. But the consistent application of a system of punishment produces a conflict with another condition which is necessary for identification. This conflict occurs whenever punishment is severe. In order to identify oneself with another one must wish to do so. Normally, one wishes to identify oneself only with people whom

one loves and people who seem to love in return. The child interprets severe punishment which is administered according to rules as a lack of love on the part of the person carrying out the punishment. This increases the child's difficulty in identifying himself.

There is still another factor which increases the difficulty of such identification in children when they are very severely punished. In order to be able to identify oneself with another one must be able to find a certain similarity between oneself and the person with whom one is to identify oneself. One must recognize similar motives in the other person and experiences similar to those which one has oneself felt. There is nothing which alienates this awareness of common humanity between the educator and the child so rapidly and so completely as a consistent system of severe punishment. Such a system accentuates the difference between the infantile desires and the adult demands. It increases the distance between the adult and the child in such a way that it cannot be bridged by identification. If the identification cannot occur, the child's moral code is reduced to the moral code of the rat. It becomes a mere system of punishment and rewards, a set of rules which teaches how one may receive positive stimuli and how one may avoid negative ones. There is but one difference between the child and the rat. The child has intelligence. Furthermore, the child's life is not a labyrinth with prescribed routes. In the human world one can select the means to attaining one's ends and one can avoid that which one fears. There is, therefore, the strong possibility that instead of developing a Super-Ego, the child will develop a system of rules and tricks to avoid difficult situations as best he can, seeking only to escape severe conflicts with his environment.

It has been shown that the inconsistent use of punishment prevents the development of a Super-Ego by not presenting the child with an object with which he can identify himself. Too frequent use of severe punishment prevents the development of a conscience because the child's desire and ability to identify himself are interfered with. Reich (12) was the first scholar to describe the consequences

of the parents' rejection of a child in his "Der Triebhafte Charakter". Aichhorn (13) and, later, David Levy (14) based some of their educational and therapeutic conclusions on this finding. The same principle is part of the theory of Individual Psychology, although Adler (15) explains the situation in a slightly different way. All the studies on the psychopathic Personality, called by some Constitutional Psychopathic Inferior, by other "Moral Insanity", and by Helene Deutsch (16) the "As-If Personality", demonstrate the visible effect of rejecting attitude on the part of the parents. This deduction seems obvious and logical, although it is actually an over-simplification.

It is an over-simplification of the problem to suggest, as we have done, that identification is the only important mechanism involved in the development of the Super-Ego. Similarly, in discussing the effects of punishment, we cannot limit ourselves, as we have done so far, to that of severe punishment as the psychological effect of moderated punishment is quite different from that which we have described. Even the difference between man and rat is less wide than that which we have indicated. These points can be best demonstrated by a returning to those patients who have not developed a real conscience, patients with the so-called Psychopathic Personality or with "Moral Insanity". Although these people have not succeeded in establishing moral principles, there are, nevertheless, certain internal prohibitions and commands to which they respond. These are the prohibitions and commands which govern sphincter morality and incest. It must therefore be concluded that the anal and genital education of the child took place despite the fact that his general moral education failed. No adequate explanation for this phenomenon has yet been presented. When we attempt to understand it, however, one thing must be taken into account. Adults meet sexual problems with a different attitude than that which they show towards any other problem. This attitude is not guided by an awareness of principles evolved from sexual education, but by an intense conflict in their own background. The educator reflects these conflicts by his attitude when he deals with the child's sexual questions and

demands. Confused as he is by his own emotions, he is apt, by his words or tone of voice to indicate disapproval of the topic, which is then interpreted by the child as disapproval of himself, a threat that love will be withdrawn and therefore a punishment. As a result, the child's sexual education proceeds necessarily along the lines of a system of punishment and reward; in other words, of a conditioning system. It is worth noticing that this system is successful in almost 100% of cases to the extent that toilet training eventually succeeds and that the child develops certain taboos in regard to sex. This is not surprising when one realizes that sexual education begins at a very early age, before the Super-Ego is formed, and that it must, therefore, proceed along the lines of the conditioned reflex. This is the point which Piaget made when he said that at the beginning of the establishment of a moral code, the moral evaluation of an action is necessarily associated in the child's mind with the punishment which he received for performing this action.

These conclusions bring us to the next point. If punishment is the basis of moral education, it is highly probable that it may also represent a necessary mechanism to the further development of a moral sense. A mechanism which sets in motion the development of a certain characteristic must eventually form a part of that characteristic. Punishment is therefore indispensable as an educational measure. Early in the child's life it served to establish certain habits. Later, the development of the Super-Ego makes possible the development of certain moral principles which function in a way different from the earlier method, in which mechanical habits determined the actions. These principles can be accepted or rejected by the individual. The acceptance or rejection of a moral principle in every separate action makes human behavior very complicated. Because of this it is advantageous that certain acceptances and rejections be automatized. Conditioning through punishment reinforces the moral principles and makes them function in an automatic manner. Although proofs are lacking, it may be true that a minimum of fear is a prerequisite for the functioning of a moral sense without too much

self-consciousness, that is, in a truly natural manner which is adapted to life. One can conclude that a certain amount of punishment is necessary but, in order to be beneficial to the child as a whole, it must fulfill certain conditions. It must stimulate the child's development instead of inhibiting it. It must be consistent with an adult morality. It must utilize the mechanism of conditioning, yet go beyond this by including the principle of cause and effect or of rational explanation. Although in our original discussion we excluded rational explanation as punishment, we can now say that a child who has been educated in a consistent manner will respond favorably to this method. When the adult explains to the child that he has done something wrong, the child becomes aware of the discrepancy between his moral attitude and that of the adult. This discrepancy is interpreted as mild disapproval and is taken as a signal that there is danger of loss of love. This releases fear which operates to modify the behavior in the desired direction.

In summary, one can say that severe punishment and the total absence of punishment have similar results. The one prevents the development of a Super-Ego, the other inhibits its automatic functioning. Only the appropriate and consistent use of an appropriate and moderate kind of punishment makes of the child a moral adult, that is, a person who, on the one hand, can automatically regulate his behavior according to moral principles, and on the other hand can do so with a minimum of compulsion. Inasmuch as severe punishment results in a dwarfing of the child's conscience, it effects the role which the person plays later in society. This is even more evident in those cases where an educational attitude based exclusively on punishment becomes an integral part of society as a whole, instead of being merely an isolated incident in the life of the child.

4. SOCIOLOGICAL EFFECTS OF PUNISHMENT. There is, at present, a sociological system which shows a special attitude towards punishment. This is the authoritarian structure of Fascism. In this system, punishment as an educational measure plays an exaggerated role. The activities of the Nazis, for example, prove better than

any theoretical discussion the sad results of such an education. The verification of this system, however, is found not only in contemporary history but also in actual experiments performed in the psychological laboratory. Ronald Lippit (17) showed that two groups of boys, which were homogeneous at the beginning of the experiments, developed a moral code, a way of life, completely different one from the other when one group was exposed for a period of time to an authoritarian educational system while the other group co-operated in a democratic system of education.

Considering punishment from the four different points of view we find that severe and exaggerated punishment is a psychological danger, a sociological threat, an important etiologic factor for a severe mental condition and is a pedagogic method with only slight efficiency. Moderate and consistent use of punishment, on the other hand, plays an important role in the evolution of the moral personality.

The apparent discrepancy between the educational and the clinical aspects of punishment is easily explained. Pedagogy concerns itself with the immediate reactions of the punished child, while the clinical study reveals the long term effects of punishment. It is only in view of the total development of the human being as a social individual that punishment receives reason for its existence, which it lost as a pedagogic and psychological instrument.—K.M.W.

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PUPPETRY (As a means of psychotherapy). The word 'puppet' is a collective term for animated dolls which can be moved either by strings (marionettes), or by direct hand action (Punch and Judy Type), or through the projection of shadows against a transparent screen (shadow puppets). Throughout the centuries puppetry has been used as an effective instrument of dramatic group entertainment in Europe and Asia.

For a number of reasons handpuppets seem to be best suited for psychotherapeutic purposes. A handpuppet consists of a head and a coat to which arms are attached. Feet are optional. Such a puppet is easy to make, both in terms of time and material. To learn to manipulate it requires little effort. Any screen, chair, box, or similar device that allows for free, horizontal movement of the handpuppet and keeps the puppeteer out of sight serves as a stage. The handpuppet fits the puppeteer's hand like a glove and each of his arm or hand movements are

immediately carried out by the puppet. This close connection between puppet and puppeteer leads to quick, direct, obvious, and forceful action. This is important because it allows for the presentation of complicated emotional and social situations with a minimum of the spoken word and a maximum of pantomimic actions which the child can more easily grasp and understand.

Emotional problems are basically anchored in attitudes either of love or of aggression. Handpuppets are pre-eminently fit to act out these basic human attitudes. Aggression and counteraggression are forcibly portrayed through fights, pseudo-killings, and the free use of sticks or similar weapons. Kissing, dancing, and the giving of presents are easily evaluated even by dull children as unmistakable signs of love and affection. All of these actions are carried out with a great deal of repetition. This the child also understands because it is his own way of experimenting with and mastering the things around him.

Puppetry is a make-believe affair. The puppets depend upon the hand and the voice of the puppeteer for the illusion of a pseudo life. Most children are aware of this make-believe nature of the puppet show and realize that the puppets do not suffer real pain when they are hit, and that they cannot be killed because they are not alive in the first place. These features prevent the feelings of fear, guilt, anxiety, or apprehension which the child would suffer if he were confronted with real situations. On the other hand, the absence of these inhibiting forces increases the range of possible play variations. One can go beyond the biological limitations set by real life and present highly dramatized scenes without running the risk of severely traumatizing the child. Should a child become overwhelmed by a part of the show, one can easily dissolve fears or anxieties by calling his attention to the make-believe nature of the show. Another method of overcoming fears in a child during the show is to take him backstage to let him see and touch the puppets. The other make-believe aspect of puppetry lies in the fact that characters such as monkeys, alligators, dogs, cats, and others and also phantastic figures such as devils, witches,

ghosts, or giants appear frequently on the stage either as silent actors or as speaking participants. It has been found that a combination of reality and phantasy in both characters and play content is liked best by most children.

Puppets are capable of representing specific persons either directly or indirectly, and of stressing specific sides of personalities. Provided the puppet is successful, the child usually identifies such a character with himself, or with his parents, his siblings, relatives, friends, teachers or neighbors, and projects his own feelings, likings, desires, and wishes into the show. Investigations have brought out that the various sides of the total psychic structure are reflected differently in the various puppets. These mechanisms of identification and projection make it possible for the child to incorporate his own experiences into the show or to modify parts of the show to suit his own needs.

Puppetry is a group activity. This is important in situations where groups of children must be reached therapeutically under time limits with a small staff. The child himself benefits by all the inherent agents to group therapy. The experiences of the individual become part of the group, and in turn the group reactions influence the individual. While he watches the show, the child makes various social contacts and lives through numerous emotional experiences which he either shares with the group or is forced to defend against the opinion of others. The benefits which the child derives from these shows go further than identification, projection, and group experiences. There is a close connection between the puppets and their audiences which creates an unusually free and flexible setting. The children are at liberty to stop and to interrupt the show at any time to shout warnings, to give advice, to suggest solutions to problems which the puppets face, to voice approval, or to express dissatisfaction. Some children may rise from their seats, move their hands or arms, go through the motions of shadow boxing, kick with their feet, or run towards the stage. These body movements are release mechanisms of therapeutic value and should not be inhibited.

Puppetry may be used therapeutically

in various ways. The simplest method would be to play out before a group of children a specific show, to watch and to study their reactions during the show, and later to use the contents of the show as discussion material for individuals or groups of children. Even if the children are not closely watched during the performance, they invariably tell during the discussion the part they played in the show. Another approach could be called the "half-show". By this is meant the following. A specific show is acted out with puppets before the group. When the conflict in the play has reached its point of culmination, the show is stopped and the children are encouraged to work out and to find their individual solutions to the problems presented either through group discussion, play activities, or through graphic and plastic arts. At some later time, a few days or a week, the proper solution should be played out on the puppet stage and a new show started, again with the emphasis on letting the children arrive at their own conclusions.

Perhaps the best therapeutic value of puppetry is utilized when the child himself can play and act out his own problems through the medium of puppetry. No attempts should be made to coach children in the production of their own shows other than to impart some necessary skills. The emphasis should be on spontaneity. By giving a show, the child brings his whole personality into action. Motor activity is necessary to move the puppet. Intellectual capacities are needed to make the story intelligible. Emotional feelings must be injected to give the show a

dramatic touch. Social qualities are essential to keep the audience interested. While the child plays before the group, he must be ready to accept adverse criticism just as gracefully as he would receive praise. This in itself is of importance in therapy as it touches upon fundamental aspects of adjustment which is always a social one in some measure. By allowing the child to act out and to verbalize about his own problems he himself, through experimentation on a tangible level, with various constellations of his troubles, will gain a better understanding of them, learn to accept his responsibility, and to strive for a satisfactory solution which will be acceptable to him because he himself selected it as his own answer.—A.G.W.

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Q

QUARRELING. Most research studies of children's quarrels have been made in the nursery school situation. For children of these ages quarreling seems a part of normal social development. As general social activity increases the number of quarrels increases, although there is found some decline in the frequency of quarreling at the upper preschool years.

The type of behavior during quarrels also changes with increasing age. The youngest nursery school children are less inclined to continue the give and take while the older children prolong their retaliation. While duration of the quarrel increases with age the squabbles at the nursery school level are very brief; the average duration is usually found to be half a minute or less. The older nursery school children use language more and physical attack less; there is a decline with age in the frequency of hitting and screaming. Ordinary observation supports the view that in children beyond preschool age there is more variety in the ways of quarreling. Aggression is more indirect; hostility may be expressed by ignoring, by subtle teasing, and the like. Studies of elementary school children find quarreling less frequent than at the nursery school level, but comparisons are difficult since most studies at the upper ages have been made in the more formal and controlled school situation. Everyday observation finds wide individual differences among children in quarrelsomeness, with very definite rules of conduct among older children as to what is fair and what is not. Among older boys we find that fighting is frequently regarded as a sort of sport.

Some studies find a tendency for boys to be more quarrelsome than girls. This seems supported by studies which find boys more resistant and aggressive

than girls, but some believe that the greater frequency of quarreling among boys is more a function of their active social contacts than of sex. At the younger preschool ages boys and girls seem similar in the type of quarreling they do, but at the upper ages boys do less crying than girls and are more overtly aggressive.

As might be expected at the nursery school age when the understanding of personal and property rights is being developed, most quarrels then are caused by struggles about possessions. Many of the very youngest children's quarrels seem incited by a desire to see how the other child will respond, a sort of social experimentation.

The child who quarrels with undue frequency may be one who is insecure, socially immature, or jealous; frequent quarrelsomeness seems to indicate poor social adjustment. It has been found that the child who is rejected at home tends to be more aggressive than the average. Favoritism, lack of privacy, overcrowding, and lack of sufficient creative material may also contribute to increased quarrelsomeness and hostility. Any factor that results in poor physical condition seems to increase irritability. It has been found that quarreling was more frequent in nursery school children who came from underprivileged homes.

The type of adult control to which children are subject may affect the frequency of quarreling. Undue restraint seems to increase hostility. Studies have found that there is more hostility, resistance, competition and aggression under autocratic than under democratic adult leadership. Children may be no little confused by conflicting adult methods of guidance in this area. Adults may discourage competition at one time and encourage it at another.

There is a possibility, too, that adult interference may only magnify trivial squabbles. Adult admonitions against fighting may conflict with what a child observes of adult practice, and often conflict with what he observes to be practical. Other children may call the child who refuses to fight "sissy"; other adults may urge the child to stand up for himself. Some research in the nursery school situation found a tendency for teachers to favor the least aggressive member of the quarrel, sometimes at the expense of justice. Of course, there are times when it is more important to see that a child learn to defend himself than to see that justice be done. Winning a fight may restore a child's confidence and raise his standing in the group. It seems to be the opinion of many experts that some adults may hold standards about fighting that are too high and too rigid for many childhood situations. They may, for example, over-do emphasis upon "gentlemanly" behavior, or expect an older child to yield too often to a younger child.

While chronic quarrelsomeness is undesirable, the child who never fights may also be displaying immaturity or signs of maladjustment. Judgment of quarreling must be made in relation to the child's age, the demands of the situation, and to cultural standards as well.—H.C.D.

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QUESTION-ASKING. The purpose of children's questions, in terms arising toward the end of the second year—of why? what? or who?—is to fit unfamiliar facts into the sphere of their limited experience, rather than to understand, to identify causes and reasons. Only that explanation will satisfy the child, which corresponds to his previously formed views and inclinations, in short, to his "universe of discourse." It is easier to satisfy his curiosity or interest by reference to the world of fairy tales and familiar mythology, till a certain level of intellectual maturity is reached, than by reference to science. A scientific explanation may be as much out of place for the child as a mythological one is for the educated adult. The young child will not comprehend the physiological truth of birth or death; there may be no other way than to tell him the stork tale or "a long trip" story—till a more factual explanation can be given.

R

RACIAL DIFFERENCES. Differences which are due to race are by definition those which are passed down by inheritance in an ethnic group. A racial trait therefore must be (1) biologically transmitted and (2) stabilized biologically in some particular human breed. Baldness for instance is inherited in family lines and might well have become characteristic of an ethnic group, but this has not occurred. Slanting eyes (the epicanthic fold) and straight lank hair, however, became racial traits among certain Mongols and broad flat noses and frizzly hair among certain Negroes. Such mutations, stabilized in large ethnic groups, are always transmitted according to genetic laws. Genes are contributed by both parents and the combination of these determines the range of traits that can appear in the offspring. There are no genes which determine what language an individual will speak nor what gestures he will use nor to what nation he will give his patriotic allegiance; all such behavior is due to his upbringing and is learned behavior. It is not racial.

Racial differences became stabilized during long periods when early man occupied different parts of the world and remained settled in certain territories for long periods of time. None of the physical differences that developed is functional, i. e., though the distribution of body hair differs among the races, no race has enough body hair to serve in place of clothing, and no one kind of hair texture or head form has any practical advantage. The presence of dark pigment in the skin, though it has a certain advantage in tropical countries where people must be exposed to direct rays of the sun, nevertheless can be adequately compensated for by sun helmets and clothing. In other words, there is no parallel

in the human race to the developments that have taken place, for instance, in dogs, some of whom are hereditarily fitted for hunting and some for pulling loads.

So long as human groups were relatively isolated and every individual's ancestors came from the same group, it was easy to recognize every individual's race. In large urban centers, and especially in Western Civilization, this is no longer the case. In our mixed populations the question often arises whether a particular child has Negro, or perhaps Jewish, ancestry. Usually in such cases only one parent, or perhaps none, is known, and the child's physical features are not distinctive enough to settle the matter. It is often assumed that some scientific test can determine its ancestry. Even in the case of suspected Negro parentage this is impossible. If the question cannot be settled by casual inspection and if there is no known extended genealogy, the only possible verdict is that the child's physical form has been derived from its 5, 6 or 7 white greatgrandparents and that no test can differentiate it from the child with 8 white greatgrandparents. When the question arises as to whether such a child is Jewish, tests are even more impossible since there are no physical characteristics which differentiate Jews. Jews are not a race but a people with mixed heredity who once spoke a Semitic language and who worship according to the Hebrew religion. These cultural traits of the Jew obviously will not appear in any aspect of the child's bodily form.

The demand for scientific tests to establish a child's race occurs most often in adoption cases, and when this demand cannot be met prospective adopting parents often bring forward their fears that the child when grown

and married will have a black baby. That is, they fear that the remote Negro ancestry which is not evident in the child they are adopting will manifest itself in full force in the child's offspring. It is impossible to state too strongly that this is a folk belief unknown to science. Some years the newspapers carry a number of reports that a black baby has been born to supposedly white parents in designated hospitals. The physical anthropologist hurries to the spot, but no one there knows of such an occurrence. It is always so. Genetically it is easy to see why "black babies" are not born to supposedly white parents. The traits that go to make up a Negroid physiognomy—dark pigmentation, kinky hair, flat nose, full lips, etc.—do not make up a unit characteristic which could be transmitted as a whole. A great many separate genes help to determine each separate characteristic, and for each characteristic the effect of any possible Negroid genes will be diluted by the admixture of traits from other, and white, ancestors. The myth of the black baby born of apparently white parents belongs with folk-beliefs about birthmarks and the full of the moon.

The demand for scientific tests that will determine a child's race arises even when what is desired is to find out whether its ancestry is Irish or Italian or German. In such cases the demand involves the mistaken idea that these are racial categories with anthropological validity. There is no Irish race or Italian race or German race. These categories refer only to country of origin, i. e. to the chance circumstance of where the parents resided. The sub-divisions of the Caucasian race in Europe are (1) Mediterranean (long-headed, dark); (2) Alpine (round-headed, stocky); (3) Nordic (long-headed, fair). There is a preponderance of Mediterranean along the south of Europe, of Alpines in the center and a considerable number of Nordics in the north. Because of this racial distribution in Europe, France and Germany have almost the same proportions of the three sub-races. Any individual child or family even in Norway may be Mediterranean, and Alpines are found in all countries of Europe and the Near East. What we designate as "races" in America is a folk category referring to country of

origin and mother-tongue; they are not groups which have in common any inherited racial traits.

Another question which often arises in work with children in America is that of rate of growth or of differential ages of adolescence. These are often supposed to be due to race. Careful statistical studies (Boas Franz, *Anthropological Study of Children*, in *Race, Language and Culture*, Macmillan, 1940, pp. 121-130) have shown, however, that these differences correlate with socio-economic class rather than with ethnic group. "The tempo of growth seems to be little affected by racial descent, but depends rather upon environment" (Boas, *ibid*, 126). In an extensive statistical survey by Boas, Negro and white girls in the New York Schools were found to reach maturity at the same time; in both Negro and white groups the more well-to-do girls matured earlier than the poorer ones, clearly indicating that hygienic rather than racial factors were operating (Unpublished study. Information from Dr. Nicholas Michelson.) This holds also in an earlier study of North European and Jewish girls (Boas, *ibid*, 126).

From all scientific studies of racial differences two general conclusions can be drawn: (1) That many characteristics usually referred to as racial, i. e. as innate, inherited traits, are, on the contrary, due to the social environment (Boas, Franz, *Heredity and Environment*, *Jewish Social Studies*, Vol. I, No. 1, pp. 5-14, 1939). These include not only obvious traits like the individual's mother-tongue or religion, but also gestures, rate of growth, tempo of motor habits, incidence of crime and mental disease, temperament, etc. (2) That inherited traits in any individual come to him genetically from his family line and that in a population made up of many distinct family lines it is a travesty of genetics to speak of "racial inheritance". Only when all family lines are interrelated is it possible to conceive of a mechanism by which they would acquire a common inheritance.

The questions which arise in America regarding race are only minimally concerned with racial differences; they are concerned with racial superiorities and inferiorities. It is not sufficiently real-

ized that scientifically the two problems are thoroughly different. To map the distribution of different hair texture in the world is one thing; to bring together material to show that "strong" hair is superior to lank hair is an entirely different thing. It requires different data and the two investigations have little to do with each other. Similarly in all judgments we pass on individuals it is one thing to say that one person has no mechanical ability; it is another to say that e. g. commercial ability is superior to mechanical ability. To prove the latter proposition it is necessary to gather very specific kinds of data. In all practical work in America where problems of racial difference enter in, the same approach is to treat differences as inherently interesting and as necessary in the world if it is not to be made up simply of rubber-stamp duplicates, but to raise clearly the specific problem of what bearing differences have on the question of inferiority.

The most direct attack upon racial superiority has been by means of intelligence tests. In these tests all consideration of specific gifts, i. e. differences which are neither superiorities nor inferiorities, are ignored and the object of measuring is solely to obtain a graded scale from high to low. It is therefore the more significant that the psychologists have concluded that high scores on intelligence tests correlate with good social and economic environment and that this is true whatever racial group is measured. Though Negroes tested in the United States have an average lower Intelligence Quotient than whites, in the first World War, Army testers found that Negro recruits from the northern states nevertheless had a higher median I. Q. than whites from the southern states. The median score for Negroes from Ohio and Illinois was 49.50 and 47.35 respectively; for whites from Mississippi and Kentucky and Arkansas the median score was 41.5 or under. Where economic conditions are bad and adequate education is not provided, even the white race does not do well on the test, and where economic conditions and education improve the Negroes surpass less fortunate whites. The possibility that this result was due to selection, i. e. that the most intelligent Ne-

groes migrate to the north, has been investigated by Klineberg, but the migrants whose school records were tabulated were almost exactly at the average of the whole Negro school population in each city studied. Another reason for discarding the explanation of selective migration is the evidence that improvement in Negro test scores correlates with the length of time during which the superior environment has had a chance to operate. Lowest scores are made by those Negroes most recently arrived from the south and all scores increased steeply during the first six years in New York schools (Klineberg, Otto, *Race Differences*, 182-189).

The problem of Negro intelligence is further illuminated by study not of average I. Q.'s but of those cases where Negroes made high scores. In Los Angeles in non-segregated public schools 500 Negro children ranked slightly higher than the white group in the same schools with which they were compared (Clark, W. W. *Los Angeles Negro Children*. Educational Research Bulletin, Los Angeles City Schools, 1923). In Chicago in a study of exceptionally bright Negro children many cases of outstanding ability are noted (Witty, R. A., and Jenkins, M. D., *The Case of "B"*, a gifted Negro Girl. *Journal of Social Psychology*, 1935, vol. 6:117). One nine year old girl of apparently pure Negro stock had a Binet I. Q. of approximately 200 and did equally well in all other tests measuring more "abstract" ability; she fell somewhat lower in performance tests. Since it is "abstract" ability which Negroes are often thought to lack, the scores are psychologically of great interest.

It follows from what has already been said about the racial composition of European nations that I. Q. scores of immigrants in the United States grouped by nationality do not give results which have racial significance. In addition these national scores have been checked against scores obtained in Europe and the investigations show that I. Q.'s obtained from immigrant groups in the United States are lower than those obtained from the parent European populations; the difficulties that attend using a new language and adjusting as recent immigrants in a new country are obviously reflected in the

scores. Comparisons made in this country give no true information as to national differences but reflect certain socio-economic conditions (Klineberg, *ibid.*, 192-194).

Race mixture, especially of extremely contrasted racial types, is often believed to cause inferiority in the offspring. Studies of mixed bloods, even of crossings between Europeans and Hottentots or Malays, have shown that in those regions where the offspring is not under a social cloud and suffers none or minimal discriminations no such degeneration occurs. Most such studies have been centered upon physical characteristics, but in Hawaii the various crosses have been also shown to be in every way satisfactory mental as well as physical types. The results may be summarized by saying that all that Nature seems to require is that both parents be healthy, but that Society may place such hybrids in such a disadvantageous position that they will not measure up to the norms of the group (Montagu, M. F. Ashley, *Man's Most Dangerous Myth*, Columbia University Press, 1942, 97-130). In view of this social prejudice in America, no counsellor would advocate a mixed marriage, but his judgment in the matter would be based not on biological reasons but on social reasons.

The study of innate characterological differences racially transmitted is unsatisfactory in psychology due to the difficulty of arranging satisfactory tests. The evidence from history is however very clear. The Japanese were even at the end of the 19th century described as "butterflies flitting from flower to flower" and incapable of the stern drives of Western Civilization. Their racial composition has not changed, but education and national goals have and their ruthless prosecution of the present war stands in the most extreme opposition to earlier national habits (Benedict, Ruth, *Race: Science and Politics*, New York, 1940, 126-135). Characterological changes in American Indians under reservation conditions as contrasted with their earlier free and warlike life also show the difficulties with theories of racial "souls" biologically transmitted.

Criminal tendencies are one of the characterological aspects upon which statistics have been generally amassed.

In the United States, Immigration Commissions in various cities and states have shown that the foreign born do not, as is often supposed, have higher rates of arrests, convictions and commitments. Studies of changes in crime rates as between first and second generations of new Americans also indicate so clearly the disappearance of specific differences in crime that racial explanations cannot be invoked to account for the observed facts (Klineberg, *ibid.*, 225-238).

Investigations of racial superiorities and inferiorities may be summarized in the words of the biologist H. J. Muller: "The natural differences between the races (he is referring here to inferiorities and superiorities) pale into insignificance beside the natural differences between individuals, so much so that an impartial science of genetic improvement could not afford to take the former into account at all in its procedure" (Muller, H. J., *Out of the Night; a Biologist's View of the Future*, New York, 1936, 120).—R.B.

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RADIO AND MOTION PICTURES. The impact of radio programs and motion pictures on children occurs mainly in connection with children's leisure-time activities and partly through the use of these media as a means of instruction in the classroom and elsewhere.

Recent census figures reveal that approximately eighty-three per cent of occupied dwelling units in the United States are equipped with radio. Precise information on a large scale concerning the amount of time children devote to the radio per day or per week is

difficult to obtain since the investigator usually is dependent largely on reports from children themselves, and such reports may be inaccurate. The findings indicate that there are seasonal and local differences in the amount of time children spend at the radio, but it is apparent that for the average child it amounts to many hours per week, and in the case of a large proportion of children it amounts to well over two hours a day. In one study urban children reported an average of six hours and sixteen minutes of listening per week (11). In another study of rural and urban children, aged nine to eighteen years, the average was fifteen hours and thirty-nine minutes per week (4). The amount of listening tends to be greatest in the winter months and to taper off as the days lengthen in the spring and permit more opportunity for outdoor play. The amount of listening will also vary somewhat according to the competition of other circumstances, such as a stimulating school program which keeps children absorbed in projects of their own choosing after school hours, club activities, story-telling and other projects in the home. However, even the child who has facilities for many interesting leisure-time projects is likely to find some time to tune in the radio quite regularly.

Motion picture attendance varies in different socio-economic groups, in different localities and at different levels, and for this reason no precise attendance figure can be given for the average member of the child population, but in urban centers the figure may be put at about once a week. In a study of the Columbus, Ohio, area, for example, it was found that the average attendance of a population of over 34,000 children in grades four through twelve was once weekly (8). Five per cent of the children reported that they never attended, and over twenty per cent of the youngsters attended twice or more each week. At all age levels there was more movie attendance by boys than by girls.

Numerous surveys have dealt with the kind of treatment in which children are most interested at various age levels (see, e. g. 4, 5, 11, 18). In the case of radio programs, findings will be influenced by the character of the programs that are available in a given

locality. In the age range from six to thirteen, the most popular program materials include adventure of a melodramatic sort definitely designed for children, and certain types of "comedy", "variety" and mystery or crime programs designed mainly for adults. Programs of a frankly make-believe character, such as dramatizations of fairy tales, tend to lose sharply in popularity after the age of eight or nine. The same has been found to hold true for certain programs containing chit-chat for small children, programs featuring activities of children, such as juvenile singing artists, or the everyday activities of supposedly real young children. There is a rise with age in the popularity of historical dramas and other "quality" dramatizations, news broadcasts and dramatizations of news and contemporary conditions, sports broadcasts and programs dealing with hobbies. Dance music and romantic serials gain an increasing audience in the teens. It has been noted that an able teacher can cultivate children's interest in programs with a cultural as distinguished from primarily an entertainment purpose, but by and large programs definitely designated to be educational in nature (such as music appreciation programs) or which make an obvious attempt to teach are likely to attract only a relatively small audience in the home.

Studies of children's movie interests indicate that these interests tend in general to parallel children's reading interests with somewhat more attention to "comedy" in motion pictures than is supplied in children's reading.

Information concerning the effects of radio programs and movies selected by children themselves during out-of-school hours comes largely from the home, where most of the radio listening is done, or from reports given by children themselves. When parents are consulted, their reactions range from general approval to rather bitter disapproval. Some of the positive and negative effects, many of which parallel each other or are antithetical, are listed below.

On the positive side there is the obvious fact that these media not only afford children a great deal of pleasure, but also put them vicariously in touch with a vast array of events beyond the

reach of their everyday experiences. Moreover, radio programs and, to a lesser extent, the movies give children something to occupy time when otherwise they might be at loose ends or demand attention from busy adults. They provide vicarious adventure for children whose lives might otherwise be drab. Radio programs frequently are a boon to children who are convalescing or who are physically incapacitated. Radio programs provide sedentary relaxation for children after strenuous study or school work. Some programs and movies provide recreation that can be shared by parents and children and provide material for family conversation. They may provide useful information, broaden a child's understanding, and give him an opportunity to learn and to enjoy good music. They sometimes stimulate the children to undertake additional study or reading or experimentation of their own in various fields of science, hobbies and the like. A systematic appraisal of benefits so derived has not been made. Since most children approach the radio and the movies primarily for recreation, the learnings that take place will largely be incidental, and therefore all the more difficult to appraise.

Reports concerning negative effects can be grouped under certain general headings. First, as noted, the radio, and to a lesser extent, the movies sometimes compete with other occupations including homework, chores, out-door play and reading. Some parents also report programs interfere with children's sleep schedules unless restrictions are brought to bear. There is also the question as to whether the time spent in relatively passive listening or watching might not more profitably be devoted to more active pursuits in the case of children who spend several hours a day at the radio or frequently attend the movies.

There have been reports that in the case of many children movies and radio programs are sometimes emotionally over-exciting, give rise to fears, wakefulness, unpleasant dreams, nightmares, and other unwholesome reactions. Concerning the effect of the radio and the movies on children's fears there have been some studies. When children themselves are asked whether they have ever been "scared" during radio or

movie presentations, most of them will answer in the affirmative. On the other hand, when children are observed throughout the day, or are questioned concerning their fears without having their attention specifically directed to the radio or movies, it appears that the role of these media, while still impressive, is quite subordinate to many other circumstances in a child's life that give rise to fear. On the basis of limited evidence it appears that most of the children who show after-effects in the form of fears or nightmares traceable to radio programs or movies are likely to exhibit other emotional symptoms not related to the radio or the movies. A further detail is the finding, in one study, that the childhood fears reported in retrospect by present-day adults who did not have access to the radio and who had only limited access to the movies when they were children do not appear to differ basically from the fears reported or exhibited by children of today (20). On the one hand, accordingly, it appears that a child may exhibit apprehensions or be subject to a nightmare that might not have occurred at that particular time, or in terms of the particular imagery involved, had he not been exposed to a given radio program or movie. Some children who are susceptible to fright learn to avoid certain programs or movies. Failing this, parents occasionally find it expedient to ban certain programs that recurrently have been followed by disturbances in the child's sleep. On the other hand, it seems likely, in the case of children who are severely affected, that the main cause of the child's distress is not simply the radio program or the movie but a combination of other circumstances that cause anxiety in the child's everyday life. While recognizing this, some units of the broadcasting industry have taken the stand that responsibility for avoiding materials that might be over-stimulating should be borne not by the child or the parent but also by the broadcaster through a policy of eliminating from programs, broadcast during hours when children do most of their listening, treatments that are likely to produce "harmful nervous reactions" (6, 17).

Other features often cited on the negative side are the emphasis on

violence, the activities and pursuit of criminals and the dramatization of aggressiveness which have been prominent in many of the productions that are popular with children. One theory is that such materials give the child a vicarious, harmless and perhaps even quite wholesome outlet for his own aggressive impulses. As against this there is the view that continuous emphasis on violence may have an effect that is as unwholesome in the case of many children as it may be salutary in the case of others; that while violence or conflict of a sort is a necessary ingredient of a drama, it does not provide what might be called a balanced emotional diet unless the programs also give play to a wide range of other, more humane feelings; that emphasis on crime and the techniques of criminals may have the effect of glorifying adventures involved in crime or the pursuit of criminals without providing any constructive attitudes or insights concerning basic problems of crime. In one study, based upon reports given by delinquents and criminals, motion pictures appeared to be a "factor of importance in the delinquent or criminal careers of about 10 per cent of the male and 25 per cent of the female offenders" (2). There also have been sporadic reports that children have gotten the idea for committing a crime from a radio program. However, it has not been established that a motion picture or radio program in itself will arouse a motive to commit crime. There is need for further study to determine not only to what extent the effect of the movies and radio is an important factor, or merely incidental to other adverse factors in the child's life, but also to what extent these media serve to reinforce the moral training which the child has elsewhere received.

There is also the possibility of negative as well as positive effects in connection with the influence of radio programs and the movies on children's general store of information, concepts and attitudes. Various studies have indicated that these media, especially the movies, may leave marked impressions and that children may retain for some time impressions or items of information they have been exposed to (11, 15). It has also been found that the movies may have a substantial influence on

children's attitudes—their attitudes, for example, with respect to various races or peoples or with respect to the seriousness of various crimes (25). The impressions that are gained may be true, or they may be false if the production contains misinformation or distortion. Among other things, the child who is interested may obtain many incidental items of instruction such as ideas with regard to the ways of people in various walks of life, manners, customs, fashions in clothes, techniques of love-making, methods of committing violence; he may obtain ideas concerning domestic relations, divorce, jealousy between married folk, "the eternal triangle" and the like. In connection with the latter items, the question has been raised as to whether some children are perhaps prematurely introduced to certain ideas concerning human relationships and adult conduct in a context that is more melodramatic than genuine. Concerning the effects in this area we need more information. Undoubtedly the extent to which a child is influenced will depend upon other factors in his life, including the attitudes exhibited by his parents and the other sources of information or experience to which he has access.

Regardless of the contents of radio programs and motion pictures, these forms of entertainment require certain practical adjustments in the home. Friction may arise if the child's desire to listen to the radio conflicts with household routine or the wishes or convenience of other members of the family. Again the child may be subject to belittlement, and possibly feelings of guilt, if his elders deplore his tastes. Here again the adjustments that are made are likely to be influenced by ways in which adults and children accommodate themselves to one another in the home not only with respect to the radio or the movies, but also in other aspects of their everyday relationships. As a further complicating factor, investigators have noted that it sometimes is difficult for an adult to realize that a production that may seem trashy and rather stupid from the point of view of an adult might still be suitable for the child's level of interest and understanding.

By reason of the large role played by the movies and especially by the

radio in the everyday preoccupations of children, many efforts have been made by adults to formulate standards and criteria for good broadcasts and motion pictures (see, e. g. 13, 17, 26). There are differences in adult viewpoints, ranging from the position that anything a child likes represents a need and that what he wants is, perforce, good for him, to the position that anything an adult happens not to like must be bad for a child. The practical interpretation of standards is complicated by the element of self-interest that comes into play by virtue of the fact that melodrama of the "thriller" or "blood and thunder" variety, containing features which many educators regard as questionable, constitutes one of the least exacting and least expensive means of winning a large audience.

Among the standards that have been proposed for dramatized materials are the following: The producer may properly minister to a child's interest in vicarious adventures. What is regarded as acceptable should be judged from the child's point of view and not solely from the point of view of what appeals to a sophisticated adult. While endeavoring to meet children's interests the producer should not take advantage of the child's susceptibilities by playing upon his fears. He should not exploit the child's lack of understanding by the use of false items of information or by distortion in the portrayal of characters or situations that are purportedly true or that give the impression of verisimilitude. The emotional emphasis should, as far as is feasible, cover a wide range of feelings, including not only elements of suspense and dramatic conflict but also other features, such as sympathy, loyalty, humor, as distinguished from a preponderant emphasis on danger, violence, aggression and counter-aggression. Among other matters that have been stressed is the importance of sincerity, artistic workmanship in the portrayal of characters and in the presentation of dramatic situations, and a basic note of authenticity so that if, for example, contemporary or historical matters are being portrayed they should be true in substance even if fictional in detail, and if productions of a definitely make-believe or imaginative character are

being offered, they should be true to formula and not provide a confusing mixture of the fantastic and the real, or of pseudo-science and truth.

Educational as distinguished from recreational adaptations of the radio and motion pictures have penetrated into almost all aspects of child training (see e. g. 7, 9, 12). The offerings range from materials designed to give life and color to subject matter or to promote "appreciation" in the field of the arts or to supplement textual or lecture materials, to lessons designed to promote specific skills, such as the learning of a foreign language. Under the direction of an able teacher, children not only can profit from radio materials used in the classroom itself, but can also have their interest aroused in broadcasts during out-of-school hours which they would not select on their own accord.

In the field of child guidance, radio programs and motion pictures, whether or not specifically designed for that purpose, have been used to some extent as a means of communicating to children various ideas concerning human relationships and as a means of precipitating group discussion of topics that bear upon problems of human behavior. In the area of child guidance these media have been used to a larger extent as a means of providing instruction for adults who deal with children than as a procedure in the practice of mental hygiene with children themselves. It is likely that the future will see many developments in the use of the movies as a supplement to guidance techniques.

Radio broadcasts and motion pictures provide an important means of giving information or advice to parents. Programs of an informational nature, by way of a talk, dialogue, or group discussion are likely to appeal to a more limited audience than programs that offer a dramatization of an actual "case", including the "problem behavior" of the child (or parents), the techniques applied to achieve a solution, and the happy ending or good adjustment. Such dramatizations may convey a message that could not be communicated so emphatically by means of conversation or the printed page. On the other hand, it has also been recognized that there may be shortcomings and dangers

in dramatization of what purports to be clinical material. There is the question as to the propriety of publicizing, for all to hear, material of a kind that is presumably confidential and presumably authentic, even if disguised. There is the difficulty of giving the gist of a problem while also portraying its larger context and its peculiar qualities. There is the danger of over-simplification at one end, and of over-generalization by the interested auditor at the other end. Specific practices or forms of behavior, such as nagging, fault-finding, peremptory techniques, that are contributory to rather than explanatory of dislocations in human relationships can perhaps be broadcast with less likelihood of distortion than anything purporting to offer prescriptions as to how to deal with complex underlying motives. By reason of questions as to propriety, possible distortion by virtue of the dramatics and the time limitations involved, and possible misapplication by the audience, some authorities in radio object to the dramatization of case material, whether factual or fictional. These objections are pressed with all the more emphasis if such materials are designed mainly to win an audience for a commercial program. There is need for further study to determine ways in which radio techniques can best be used to influence information and attitudes with respect to problems of human adjustment.

Motion pictures have been used widely in research studies that indirectly contribute to child guidance. They have also been utilized to demonstrate facts with regard to behavior and characteristics at various periods of a child's development, to illustrate developmental norms and to portray the process of development. They have been used to demonstrate certain methods of studying children (such as tests, projective techniques, interviews, and the like), to illustrate case study techniques, to illustrate practices in the care of children, to illustrate teaching procedures in the nursery school and higher grades, and to demonstrate the effects of various contrasting methods of dealing with children (such as the use of democratic and autocratic techniques).—A.T.J.

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RAPPORT. The term rapport at one time referred specifically to the relationship between hypnotizer and subject, whereby the latter responded with heightened susceptibility to suggestions of the former. In child guidance work it has come to mean the spirit of "camaraderie" which the examiner or interviewer seeks to create between himself and the child whom he is seeking to help. More generally the term can be applied to group situations. For example, a teacher can maintain "good rapport" between herself and an entire class. There is no adequate single word in English which expresses the full French meaning. There are implied elements of accord, affinity, faith, and confidence, as well as the former factor of suggestibility.

There are few formal methods by which rapport is established, and few clinicians have succeeded in verbalizing their "tricks of the trade." Adult behavior which produces a feeling of friendliness in one child may arouse suspicion in the next. However, there are a few general rules which most people who "get along with children" follow, consciously or unconsciously. One technique is to know as much about the child as possible before he is first seen. Another is to avoid push-

ing the child into tasks without first preparing the way. A broad point of view is to try to put oneself in the child's position, to imagine how he feels in the present situation and to act accordingly. The adult must if possible manifest a genuine, friendly interest in being with the child and talking about the things he talks about. Commonsense precautions such as a ready smile and pleasant appearance have good effect, but when overdone they result in an emotional "pushiness" which only serves to alienate most children. Any device which makes the child feel important during the test or interview will usually aid in establishing good relationships—asking his advice, complimenting his judgment, etc. Needless to say, the child must be assured that the interview is entirely confidential if this factor is important. Most clinicians try to cultivate a manner of greeting a child which gives the impression that the two are "old friends"—but this is done in a restrained fashion. A simple and direct approach is preferable to a long, wordy one.

The psychology of rapport probably rests on the importance of minimal cues, both adult and child. One's ability to respond to small cues can be cultivated if he constantly checks himself during and immediately after every encounter with a child.—E.W.S.

READING. Reading and Child Guidance: The ability to read plays a large part in the child's adjustment in his school life and total environment. Children who read with ease from the first grade through high school have a major source of difficulty removed. A frequent cause of referral to child guidance clinics is reading difficulty.

Reading may be not only a cause for personality maladjustment but be caused by it. Children who fail in learning to read, or have difficulty in attaining the skill of their classmates, often develop symptoms of behavior which change their reactions in all aspects of their life both in and out of school. Frustrations, compensatory behavior, aggressive and withdrawing behavior are among the most frequent types. On the other hand personality difficulties already existent in the child

before he learns to read, or emotional situations arising during his school life, become stumbling blocks to his learning process and either slow down or completely impede it. Consequent attitudes developed toward reading often last throughout the child's school life and in time hinder the reading process.

Reading and Child Development: Increasing attention has been paid in the last decade to the importance of the child's stage of development in relation to his training in reading. One group of writers believe that the child should reach a certain level of maturity before he is given any training in reading. This maturity is determined largely by the child's mental age (usually $6\frac{1}{2}$ years) although other aspects are taken into consideration such as physical (hearing, vision, motor coordination, etc.), social and emotional maturity.

In contrast to the idea of maturation, as the sole criterion of reading readiness, increasing stress has been put on the idea of preparation for reading along the lines indicated for each child by means of reading readiness tests. These reading readiness tests for kindergarten and first grade have been developed to determine individual differences in readiness. Usually these tests sample the child's abilities in seeing likeness and differences of objects, numbers, letters and words, in language, in the use of ideas and in their proper sequence and in some aspects of vision, hearing and motor coordination. Some of the most used reading readiness tests are the Gates (10), Metropolitan (11), Monroe (12), and Van Wagenen (13). Training for reading before reading begins can now be specific and follows the aspects in the reading readiness tests. These aspects have been determined by research to prognosticate greatest success in reading. Not only teachers in school give the necessary pre-reading training but parents are urged at both the kindergarten and early first grade level to supply the basic experiences. The background for the use of words plays a large part in these basic experiences. The building of word concepts is of major importance and should utilize first-hand sensory experiences in many forms. Care should be taken to see that the child does not associate the meaning in one situation context only

but should experience it in a wide variety of situations. In later grades teachers of the subject matter fields should be responsible for building the concepts of their fields.

The idea of readiness for reading at each stage follows that of the levels of development of the child whether it be the result of maturation or training. Work in reading at each level should be based on the stage which each individual child has reached in his development as determined by informal and standardized testing plus the teacher's observations.

Mechanics of Reading: The mechanics of reading have been of many types. They have been successively as follows: (1) by means of learning the letters of the alphabet, i. e., c-a-t, cat, (2) by means of phonics and phonetic elements, i. e., st, ade, etc., (3) by means of the general visual configuration of the word as a whole, i. e., 'dog' and (4) by means of seeing likenesses and differences in words by both phonetic and visual analysis.

Although phonics versus non-phonics (or the word-as-a-whole method) was a controversy in the educational world for many years, at present the major trend seems to be that of a compromise. Although words are taught as wholes (in their sentence context and singly) during the first actual reading done by the child, phonic analysis is gradually introduced after 75 or 100 sight words are learned and after reading has been developed as a thought-getting process. This phonic analysis is usually done as an intrinsic part of the reading lesson although some advocate the phonic analysis as something apart from the actual reading for thought. Those who advocate the intrinsic type of phonic analysis use word similarities and differences to sharpen word perception by both the eyes and the ear. Words with similar parts (beginning, middle, or ending) are placed in juxtaposition so that discrimination is necessary. The meaning of the words should always be emphasized. Only familiar words should be used at first. Although reading is taught largely by means of wholes nevertheless an inventory of phonetic elements should be taken at the end of each of the primary grades to determine what particular elements need further to be taught each child.

Investigations have been made to determine which elements can best be learned in each grade. Danger of over-emphasis on phonics have been indicated as word-calling, narrow eye-span, slow comprehension and unnatural articulation. The consensus of opinion is that there should be a moderate use of phonics for all children and more use of it for children who especially need it.

Another aspect of the mechanics of reading is that of eye movements while reading. Although much attention has been paid to improvement of eye movements many regard them as merely symptomatic of good reading and that a more fundamental change must be made. They are valuable, however, for diagnosis of reading difficulty. Analysis may be made of the number of fixations, the span of recognition, the regression movements and the coordination of the eyes in the return sweeps to the beginning of the line.

Silent and Oral Reading: Although oral reading was at first the most frequent type of reading the last twenty years have seen the emphasis on silent reading. Because of the hindrance of habits carried over from oral reading to silent reading (such as lip, tongue and throat movements) less and less emphasis has been put upon it (except in the primary grades) since the most frequent type needed by the majority of persons is rapid silent reading. Oral reading is important in the lower grades because it aids the teacher in diagnosing faulty habits, difficulties and confusions, it motivates reading, improves speech and conversation for the enjoyment of stories, poems, plays, etc. However, in oral reading only one child can read at a time and this reduces the practice time of all children and in addition reduces the silent reading rate of otherwise fast readers to the oral-reading rate of slower readers if all children follow the reading in similar books. Rereading to the group should never be done unless the rereading is for a particular purpose. Rereading may be for the purpose of finding the significance of events, writing a title, noticing special types of words, or relating it to class activities.

Although silent reading should be begun in the first grade, major emphasis in it does not begin until the

third or fourth grade. Silent reading can be either work-type reading or reading for enjoyment. Comprehension of the material read may be checked in many ways, by oral or written summary answers to objective type questions, by drawings, actions, etc.

Types of Reading: Both oral and silent reading may be done for many purposes. For the work-type reading in particular a purpose should be kept in mind during the reading. The ability to read for different purposes is a skill which can be taught specifically. The various purposes for which one may read are: to comprehend the material read, to read for directions, to locate information, to skim the material for main ideas, to read to predict the outcome of given events, to read for details, to read for the associations with previous experience, to select and evaluate the material read, to organize the material read, to remember the material read and to read for recreation. The teaching of these abilities should be done in each grade but the grade-placement and grade emphasis depend on the difficulty of the material to be used.

Motivation of Reading: Since all reading should be done with some purpose in mind, the motivation of that purpose is an important teaching goal. Extrinsic rewards are poor types of motivation. The motivation should come from the reading itself. Interest in the material read and its vital relation to the experiences of the child should be the prime forces of motivation. Attention and learning parallel real interest. The main problem then becomes one of finding material suitable for the child's reading ability, so that success can be assured, and material which satisfies his interests and which is important to him. This reading material should be related directly with his past or present experiences so far as possible.

Prevention of Reading Difficulties: The prevention of reading difficulties would dispense with the necessity of remedial programs. Prevention may be obtained for the majority of children by the provision of an adequate language and experiential background for reading; the examination of all children for reading readiness; provision for further reading readiness training in specific areas found necessary in the

case of each child; individualization of instruction; the motivation of reading by integration of reading with purposive reports; the use of a wide variety of materials interesting to the child and adapted to his vocabulary and experiential background; and by the systematic survey of reading achievement at regular intervals by means of inventory tests, informal and standardized tests of both the survey and diagnostic types.

Major Causes of Reading Disability: Although the majority of reading problems can be traced to a poor beginning in the first year and the lack of a program of prevention of difficulties as stated above, there are certain causes which predispose some children to more difficulty with reading than others. Certain physical defects such as poor vision, hearing and general bodily conditions of malnutrition and internal glandular disturbance account for about ten percent of reading difficulty cases. Mental functions such as poor visual and auditory memory span, reversal tendencies, etc., contribute little to the solution of reading difficulties. The general learning rate of the child is of prime importance, however, since the real cases of reading difficulty may be discovered by comparing the child's reading achievement with his reading capacity, as judged by an individual Stanford-Binet Intelligence Test or the Durrell-Sullivan Reading Capacity Tests (14). A bright child who is not living up to his mental age should be considered just as much of a reading problem as one who is slower and who is likewise not living up to his learning rate. Faulty learning habits are often a major cause of reading difficulty as well as faulty concepts of the nature of readings. Considerable absence from school during the first year is often a prime cause. Certain specific difficulties relating to word meaning, word analysis, phrase reading, recall, etc., are also important causes. Emotional conditions in the home sometimes cause blocking in the learning process but more often it is the failure in learning to read which causes the emotional condition and further difficulty.

Analysis of Reading Difficulties: Reading difficulties are discovered by means of a comparison of the child's reading achievement level as compared with his

capacity. This may be found by means of survey tests of reading (such as the Gates Silent Reading Tests, The Stanford Achievement Reading Tests, The Progressive Achievement Reading Tests, The Metropolitan Reading Tests, The Durrell-Sullivan Reading Achievement Tests, and the Iowa Elementary Reading Test.) When the reading achievement is considerably lower than the indicated reading capacity, further analysis of the reading difficulty should be made. This may be made by means of informal teacher analysis with check tests (3), or by means of more standardized case study techniques such as those of Durrell (21), Gates (22) and Monroe (23). The child's attitudes toward reading, reading experience and present interests may be inventories by the Witty and Kopel Interest Inventory (24).

Remedial Reading: Remedial reading may be done individually or with small groups of children, with similar types of difficulty and similarly retarded in reading. It is most effective when the teacher has a friendly, sympathetic attitude toward the child and makes the reading situation pleasant. It is most important to change the child's attitude toward reading before much specific help is given. Materials based on the child's most vital interests should be provided and materials within the limits of the child's actual reading and experiential vocabulary. Every effort and success should receive much encouragement and praise within legitimate limits. All recommendation for specific treatment should be based on a thorough diagnosis of each child's individual needs. Usual types of training specifically recommended are phonetic training, word configuration and visual analysis, kinaesthetic training, training in oral reading, in speed of reading, in accuracy of reading, in reading for specific purposes. The best type of reading materials for remedial cases are those written on a lower reading vocabulary level than maturity of interest level, those which are on specific interests, such as cowboys, airplanes, animals, electricity, etc., and those which are small and contain brief stories or articles. Often material may be dictated by the children for further reading. Many game devices may be utilized (see Durrell and Russell and

ditions in children which cause greater unhappiness.

The presence of a physical handicap is a prominent factor leading to difficulty in learning to read. Defective hearing is common among American school children. In most instances this can be satisfactorily detected by the usual tests but, where hearing is lost for certain ranges of pitch only (regional deafness), the use of the audiometer is necessary. By this means it is also possible to differentiate between impaired hearing and the inability to comprehend the spoken word sometimes referred to as congenital word deafness. Poor hearing should be suspected if the child shows effort in listening or asks for repetition of directions. Defective hearing is a greater handicap where the phonetic or auditory method is used in teaching reading than where the sight method is used. The child hears blurred or indistinct sounds and is unable to associate them with the words in the book or to recognize them at a later period.

Defective vision is a not uncommon cause of difficult reading. The child gets an indistinct image of the letters and therefore must look several times at the word. He reads slowly and loses his place frequently. Where there is a defect in coordination of the eyes, owing to muscle unbalance, the images on the retinas fail to fuse. They overlap or are seen one above the other and considerable confusion results. A modified moving picture camera, the ophthalmograph, is available which photographs the eye movements during reading. By this means it is possible to obtain a record which shows how well the eyes move together. It also gives information concerning the speed of reading and the number of regressions or backward movements of the eye. It is valuable in comparing the record of a specific child with the average for his age and grade, and also in measuring changes that take place with treatment.

Defects in hearing and vision should be corrected as far as possible. Exercise of the eye muscles, called orthoptic training, may be necessary to help the child to learn to fuse the images of the two eyes.

Another reason for difficulty in reading is the child's immaturity. Not every

child of six years is developmentally ready to learn to read. Readiness means not only a certain degree of mental development but also mastery of speech, understanding of directions, muscular coordination, ability to concentrate, social development etc. Limited experience, with small vocabulary and few ideas, will hinder the understanding of what is read. The child becomes bewildered and emotionally upset by his inability to compete with his school-mates and this feeling of defeat further interferes with success.

If training in reading were delayed a year or two the child might make normal progress in reading. The home situation should be investigated, as immaturity is often the result of parental overprotection.

Improper training accounts for a number of poor readers. Incompetent teachers or the use of a pedagogical method which is poorly suited to the child, result in failure. Some children progress rapidly under the "sight method" of teaching reading, others cannot grasp this technique and must learn by the "phonetic" method. Loss of consecutive instruction, owing to absence from school, changing schools or teachers may cause retardation.

When a child is unable to read at his grade level great pressure is apt to be put upon him by parents and teachers. He is urged to spend considerable time reading and the necessarily simple books given him usually lack content which is of interest. This method of teaching him will not succeed. It causes either embarrassment and misery or resentfulness and determination never to learn.

Remedial training should be undertaken only by a teacher familiar with this field. The amount of improvement is related not to the child's disability but to his willingness to apply himself and to the efficiency of instruction. Instruction should start at the child's reading level and the material should be interesting in content and suited to his age. Books are now available which meet these requirements. Faulty habits should be corrected and the child should be repeatedly encouraged.

In certain instances there seem to be developmental defects which hinder the child in learning to read. This may be associated with mixed cerebral domi-

nance, that is the child is left-handed but right-eyed or he may be right-handed but left-footed and left-eyed. He may have been trained away from the use of the master hand. There is confusion of letters and the child is unable to understand what he reads. Training is difficult. In some instances there has been improvement in reading when the child was retrained to the use of the dominant hand.

Many children who are unable to read are found to be emotionally maladjusted. It is difficult to say whether the emotional disturbance led to poor reading or whether this distress results from the child's failure. In some instances the child comes to school from a home where he has been over-protected. He is shy and sensitive and unable to take part in classroom activity. Discouraged by early mistakes or unwilling to try to read, he drops farther and farther behind. Sometimes he is already conditioned against reading by premature and poorly directed attempts at reading before he is ready to learn to read.

The child who is behind in reading is easily embarrassed and emotionally upset. He makes more mistakes than are necessary. If he is ridiculed or laughed at he may refuse to read altogether. Usually both written and spoken vocabularies are poor and therefore compositions and classroom discussion are inadequate. The child is apt to be inattentive, restless and easily distractable.

Every effort should be made to encourage the child and give him confidence in himself. He and his parents should be assured that his intelligence is normal. His success in other activities should be applauded. The parents should be made to understand that reading disabilities may be entirely overcome; with adequate training, encouragement and a little effort on the child's part, he can be taught to read properly. There should be no pressure at home for better work. Emotional distress must be relieved. Recognition and correction of reading defects should be the responsibility of the school.

—R.M.B., H.B.

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See: REMEDIAL WORK.

RECREATION. Recreation is a term that has come more and more into use as its place in modern society has expanded. Recreation describes all types of leisure pursuits at all age levels. The recreational activities of children are usually called play. The present treatment will include play as a part of the more inclusive term of recreation.

The most common meaning given to the word recreation is in contradistinction to work. In pursuit of this comparison it was logical to hold that work was what one did not enjoy while play or recreation was what one did because he enjoyed it. However, this distinction breaks down when it is applied to work that one enjoys. In order to avoid the controversy over whether or not work one enjoys is really play it seems necessary to define recreation on the basis of the individual purpose underlying it rather than on the passing feeling of the individual at any given time. Recreation, then, is what one does for the enjoyment there is in it, for no reward other than the activity itself and which does not contribute to earning a living. It is not what a person does but the reason (or purpose) underlying his doing it that determines whether it is recreation or work.

Students of human development agree that play is absolutely vital to the development of the normal human being. The pace of modern life is such that a wholesome recreational program is essential to a well balanced life. As youth, as young citizens, and later as parents the human personality will achieve a greater dignity and a more successful adjustment if the life plan includes a wholesome and constructive recreation program. Although this fact is recognized by leading educators and other workers with young people as yet no systematic program of guidance in the field of recreation has found its way into the institutions dealing with children.

Adequate opportunity for play is important in the early life of the child for the following reasons:

1. Active, vigorous play provides exercise and practice in the use of the body that a child can get in no other way. So widespread in the human race is the urge to play that some psychologists in the past have listed it as an instinct. Certain it is that spontaneous play is a universal characteristic of childhood and that it is closely associated with muscle development, coordination, appetite, elimination and other basic human functions.

2. Play with other children provides much needed experience in social relationships. In the process of playing with others the child comes to learn cooperation, the rights of others and how to act in a social group. Social skill is learned just as surely as talking, reading or writing are learned. The play life offers a real opportunity for this social development and there is no adequate substitute for it. With the modern trend toward small families it becomes imperative that play groups be organized on a neighborhood basis to fill this need for social experience.

3. Play is necessary to mental health. There is no adequate scientific proof available to demonstrate the place of recreation in the mental life of a person. However, authorities in both the field of mental health and child development point to the place of recreation in the wholesome life and suggest it is necessary to the balanced personality. It is in the recreational life of the individual that he has a chance to pursue his own interests unhampered, to build up his own ego free from the rigid requirements of the world about him.

4. Play provides an opportunity for adults to become acquainted with children on a more nearly equal level than is usually achieved. When adults play with children both parties seek the same end together and the adult leaves his role as a censor of child activities.

Twenty-five years ago, when the cardinal principles of education were set forth, "preparation for worthy use of leisure time" was included as a major aim of the schools. Since that time there has been a steady trend toward a more adequate recreational program in the schools. It is now fairly well

established (1) that youth generally, in all walks of life, are inadequately prepared to do constructive recreation and (2) that recreational skills must be learned just as one learns to read or write or to do multiplication tables.

A recent study of the recreational activities of adult males has shown that those who did things with their hands as recreation, learned these things and did them as children. Those who did not do such things as children did not do them as adults either. This would seem to indicate one thing primarily; an adequate recreational guidance program calls for activity and the learning of skills that can be carried on in later life. Many of the activities now taught in school, both as curricular and extra-curricular cannot possibly be carried over as recreational pursuits for a variety of reasons—they are too strenuous, involve too many other people, are too expensive.

A person who is adequately prepared for a constructive recreational life will have explored his own capabilities through actual participation in a variety of leisure activities. This can only come through a systematic exposure of young people to recreational activities and under conditions where they can enjoy these things and gain skill.

The national policy-making groups in American education have pointed out that the school is the logical place for a unified recreation program to center, but teachers and administrators have been slow to extend their influence in this direction. In order for the schools to assume the responsibility that seems to be rightfully theirs, the following steps will need to be taken:

1. Teachers must be trained in recreational skills in addition to or, perhaps in some cases at least, instead of, traditional subject-matter.

2. Curriculum content should be altered to allow ample time for pursuit of recreational interests under skilled guidance.

3. A record system should be devised that will indicate individual progress in attaining recreational literacy as well as scholastic achievement.

Individual Differences in Play Patterns. Play patterns vary according to the intelligence of the individual. There is no clear cut relationship here, but bright children tend to pursue a wider

variation of play activities, to prefer more activities of a mental nature and to assume leadership of the play group more often than do average or dull children. Studies fail to indicate that as a group bright children prefer "sissy" activities in their play interests, but experience shows that individual bright children are likely to have difficulty in groups their own age because their play interests do not conform to those of the average group. For this reason unusually bright children may need special guidance into groups on their own level lest they fail to enjoy the vigorous, spontaneous activity of play that is so important to physical and mental development.

Children of all intelligence levels should learn to enjoy vigorous active play, but the highly competitive athletic programs which stress winning teams rather than enjoyment make it difficult for the individual who wants to play reasonably well for the sheer joy of playing.

Other individual differences in play patterns will be found associated with size of family, position of child in the family, type of community, and sex. Children from families where there are several brothers or sisters about the same age will usually have more opportunity to learn cooperation as well as play techniques. However, this generalization must be applied cautiously since there are so many special circumstances that may affect the child. The only boy in a family of girls, for example, may not benefit from the play of his siblings.

In our society, custom dictates much of the recreative patterns. Girls play with dolls, boys pursue baseball and marbles. Studies show that these sex differences are not as marked in the earlier years of life as later and there is a distinct tendency for girls to follow more and more of the vigorous sports which have by tradition been for boys.

PLAY AND DELINQUENCY. Students of crime and delinquency have long pointed to the direct relationship between lack of play space, facilities and leadership on the one hand and high delinquency rates on the other. Since play is a universal urge of childhood, it is not surprising that they will attempt to pursue it under all kinds of

difficulties. Wherever they happen to find themselves, children develop play patterns or learn them from other children. In situations where play activities infringe sharply upon adult prerogatives, children will usually continue to pursue their urge for self-expression, and adults then define their acts as delinquencies.

Thus it becomes a game to outwit adults in what at first is a perfectly innocent pursuit of adventure. As the game proceeds, however, it becomes more serious and youngsters develop the attitudes toward adults, policemen and laws that form fertile soil for more serious delinquencies. This is one reason why schools should be concerned with the play life of children if there is to be an intelligent guidance program. The patterns of antisocial behavior that break forth in the classroom may simply be the manifestation of the distorted game of children against adults, which is the inevitable result of unhealthy and inadequate play conditions.

A number of demonstrations have clearly shown that children in deteriorated neighborhoods can and will respond to constructive leadership in their play patterns. This is one reason why such programs as Boy Scouts, Girl Scouts, Camp Fire Girls, and Boys Clubs can be effected. They place the adult in a situation where he can direct play interests in channels where adults and children work together toward the same goal instead of against each other toward different goals.

COMMUNITY COOPERATION. It is quite evident from the very nature of the problem and on the basis of experience that the reaction problems of youth can only be met by adequate community organization and cooperation. Just what agency should take the lead in this enterprise depends upon many factors within the community. There is an increasing tendency, however, for schools to evolve their curricula from community needs and for the school building to become a center of community activity. Under such circumstances it is only natural for the school administrators to study the recreational needs of their pupils and for the entire school staff to become interested in providing wholesome recreational activities through the school.

INDIVIDUAL COUNSELING. The case worker will need to study the recreational life of the individual from at least four different angles: (1) as a way to understand the personality better by observing reactions in free, spontaneous activity, (2) as a possible source of unfortunate attitudes toward adults, (3) as an indication of need for therapy in developing and extending the play life, and (4) as a way to establish rapport with an individual. Every case history blank should provide ample space for recording significant findings about the recreative life of the individual, and the case history should not be considered complete until those who know this side of the personality have contributed to the record.

—E.D.P.

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See: LEISURE, PLAY.

REFUGEE CHILDREN IN AMERICA.

Since the war began, thousands of refugee children have found a new home in America. Data furnished by the Immigration and Naturalization Service of the United States Department of Justice concerning the number and country of origin of refugee children admitted to the United States in 1940, 1941, and 1942, either as permanent residents or for an indefinite stay, are as follows:

During 1940, 7,181 immigrant children under 16 years of age came from European countries, 303 from Asia, 81 from Africa, the Philippines and other Pacific Islands. In 1941, 4,846 came from Europe, 244 from Asia, 141 from Africa and the Pacific Islands. In 1942, because of transportation difficulties and the hazards of ocean travel the numbers dropped. There were 1,481 from Europe, 89 from Asia, and 98 from Africa and the Pacific Islands, a grand total of 14,464. These children were about equally divided as to sex.

In many cases these children's lives have been disrupted, their homes broken up, families scattered. Some have been on the verge of starvation, many have barely escaped serious physical injury or death. They have had to leave their friends and material possessions behind them. Who are these children? How well have they withstood their trials and discomforts? What are their reactions to the events that have befallen them and to their experiences in the New World?

Partial answers to these questions have been obtained through an intensive study of fifty refugee children observed by the writer during the past three years. With one exception, that of an adopted child, they came originally from homes of better than average comfort, some from homes definitely superior in social and economic status. Their parents are well educated and occupy professional positions. A comparable group of native American children the same age affords an opportunity for observing similarities and contrasts in the two groups. Most of the children reported here are to remain in the United States permanently; not more than three or four are here for the duration only.

Information about the children was gained from conversation with their parents or guardians, from school records, from observation of the children, interviews with them, their written compositions, from test records and, in the case of the younger children, from their drawings.

These fifty children ranged in age from 9 to 18 years. There was one nine and one ten years old; six, eleven; eight, 12; eleven, 13; nine, 14; six, 15; six, 16; one 17 and one 18 years of age. Thirty-one were boys and 19 were girls.

Five of these children had been born in the United States, but had lived most of their lives abroad. The country of origin in each case was as follows: England, 2; Austria, 5; France, 20; Germany, 8; Latvia, 1; Russia, 5; Czechoslovakia, 1; China, 2; Switzerland, 1; Poland, 1; Yugoslavia, 1; British subject residing in China, 1; American subject living in China, 1; Unknown, 1.

An attempt was made to rate the intelligence of these children through the use of standardized mental tests. This was impossible in six cases because of the child's lack of English. In several cases the ratings were based on non-language tests. The remaining children, in spite of partial English reading skills, were given standard American tests. In interpreting results, some allowance must be made for the subject's lack of fluency in English. The ratings are as follows: I. Q. 80-90, 3 cases; 90-100, 3; 100-105, 4; 105-110, 7; 110-115, 9; 120-125, 8; 125-130, 5; 130-140, 4; over 140, 1; Median rating, 116. It is evident that this group constitutes a selective group with a median I. Q., in spite of shortages in English, only a little below the median for the entire population in the private school these children were entering or had attended.

Although several of the children had reached American shores only a few months before they were studied, most of them had been in this country a year or more before they came to the writer's attention. A number had moved about from country to country in Europe or had reached America only after a long voyage touching at many ports. These children show in their behavior and responses that their experiences have been broadened by the wide travel, that they have come into contact with many different people and have acquired the native languages of countries where they have resided.

This report relates chiefly to the children in the group, who were twelve years of age or older at the time they were studied. As a group they show wide individual differences, they conform to no patterns, they have distinct personalities.

Even with limited English, they were able to express themselves remarkably well; in fact, their fluency in English

has improved rapidly since their arrival in the United States. All the children seemed willing to relate their experiences.

On first acquaintance these children do not appear to be much different from native American children of adolescent age. More intensive observation, however, discloses certain differentiating characteristics attributable to their exceptional experiences.

CHARACTERISTIC TRAITS. These refugee children have made rapid adjustments to American life, learning to like the new tempo, the custom, the strange foods, the new games, and their school experiences. As a group they appear to be happy, enthusiastic for every new experience, self-confident, co-operative, and appreciative. Their buoyant spirit has not been crushed by the severe trials they have experienced. They have maintained a sense of humor even in tragic circumstances. They are not downhearted, nor do they seem seriously frustrated.

Most of these children know more than one language; some speak and read as many as four different languages. A favorite activity is reading. This was the most frequently mentioned recreation. The hobbies that were mentioned ranged through all the typical adolescent interests, but showed science interests more prominently than any others. After reading, music was the most frequently mentioned interest. In fact, music is more frequently performed and enjoyed by this group than by a similar native American youth population. The regrettable thing is that in many instances the refugee child's musical career has been disrupted by his emigration. Several mention feeling keenly the loss of their pianos, the lack of opportunity to get instruments to practice on here. Many find in music comfort and relaxation, as well as emotional satisfaction. Listening to the radio is nearly as popular with the refugee children as with native-born Americans. Going to the movies is equally popular with both groups.

Love of animals is another trait that the refugee children show to a high degree. They long for pets or lavish affection on those they possess. Several children show a marked preference for rural in contrast to city life. These are children who for the most part

have always lived in a rural setting or had interim sojourns in rural England. They indicated considerable interest in athletics and outdoor sports, though somewhat less interest than American boys and girls of adolescent age. As a group they enjoy traveling and would like to travel more. An outstanding characteristic of the group was their superior manners shown in the way they greeted strangers and responded to their parents. In this respect they were superior to typical American children of comparable age.

REACTION TO THE WAR. At the time the data concerning these children were recorded, the United States had not yet entered the war. Hence it was natural to find that the refugee children showed more mature concern about the outcome of the war, more understanding of the implications the war had for the world's future, and more frequently mentioned the war, than comparable American school children. Over half of these children had been forced to undergo experiences that were uncomfortable physically and mentally. Their minds, consequently, tended to dwell continually on these experiences. Several of the older children wrote essays on the tragedy of the war, when they were given free choice of topics. Many feared the Axis forces would win the war, upsetting their temporary security once more. Several were deeply embittered, determined to get even with the enemy, anxious for an opportunity to "hit the enemy on the nose". More than one was glad to have escaped. They had seen enough of war to abhor it; to their minds there was no longer any glamor associated with war. The intensity of concern in individual cases varied in proportion to their distance in time and space from the actual combat zones. Those who had been closest to actual war conditions naturally felt most keenly about the situation. They showed the deepest resentment of the suffering, the fright, the separation from their families, the near-starvation they had undergone. In general, these children seemed keener on politics and social problems than comparable children in the United States.

Food is a topic that is much on the refugee child's mind. Their liking for good food was frequently mentioned, a

liking no doubt intensified by their privations.

A French boy of fifteen who had finally reached America after a long, circuitous ocean voyage, having left all his personal possessions behind and his father a prisoner, wrote in his essay, "I am ashamed when I think I am so well off when the people abroad have nothing to eat." Over and over again these refugee children make the comment, "I'm afraid they haven't enough to eat over there."

These children consider money an important commodity. Few have any substantial funds, and their families have been forced to convert the few remaining valuables into cash. Money is a topic that seems more important to these children than it is to a comparable American group, though the latter anticipate their need of money in the future.

PERSONAL AND EMOTIONAL ADJUSTMENTS. Judging from their attitudes and behavior, these children have withstood the emotional shock of war time experiences very well. Even those who have been bombed out of their homes or have been machine-gunned on the route of escape have withstood the emotional and nervous shock remarkably well. The greatest shock to these children has been separation from their families. From the records it was obvious that the happier children were those whose families were intact in America, or at least those whose mothers were here with the family. The most frequent concern expressed by the group related to family members who were left behind in Europe or the Orient. This constituted a cause of most intense suffering in individual cases. As one adolescent girl expressed it, "My greatest longing is to have my father back from China and our family reunited."

The next great loss they feel is for their former friends abroad. This loss is mentioned far more frequently than loss of any material possessions. Several long to return to their original or temporary homes abroad, chiefly to rejoin their families or friends. This feeling was most intense among those who had had no contact with their friends or families in a long while.

The group as a whole experienced a happy childhood much as typical

American children have. Most of them previously lived in comfortable circumstances. They are extremely proud of their parents, show deep affection for them and reveal close home ties. During these troublesome times, the parents have been a bulwark for these children. The appreciation they show their mothers is extreme. More than once the idea was expressed, "My mother is the rock of the family". Yet it is obvious from the children's comments that their parents have been in the main stricter than typical well-to-do American parents, and their home training has been more formal. American children tend to take their parents and comfortable homes for granted; not the refugee child who has been torn from his native environment and flung into a strange land.

The younger children could not be approached directly for expressions of their reaction to the war, but several showed in their drawings their obsession with the war theme. Comparable American children at the time the drawings were collected, before the entry of the United States into the war, showed no such concern.

The older children prove to be typically adolescent in their exaggerated loves, hates and fears, in their aspirations and their current friendships. The more gifted the children, the more sensitive they appear to be. They are keenly alive to every new sensation.

Several showed tenseness arising from a sense of strain in the new adjustment demands made of them. To several the future seems very dark. Most of them resent being treated as foreigners in this country. Shyness was an outstanding characteristic of their behavior as a group, a trait noted more frequently than any other emotional response. Several maintained a formal pose, apparently in self-defense, or they were definitely on the defensive. Several were serious behavior problems; one had irrational fears; one showed extreme anxiety; two, depression or morbidity; one stuttered badly; and one had been reported as a "hopeless case". Several of these children have already undergone severe persecution here in America. A number report having had bad dreams or nightmares, several mentioned fear of the police, or showed in their manner fear of dis-

closing to strangers confidential information about their families. One felt neglected at home.

These children have experienced difficulty in establishing new friendships here in America. They tend to be treated as foreigners. One child noted that it was otherwise in his temporary home in England. Several feel lonely; one girl does not find herself in sympathy with the things the girls her age think and talk about. They report that they are not understood by their classmates, that the boys and girls who could be their friends have not been nice to them. From this intolerance they suffer keenly. They are willing to make friends, but confess that they do not know how to go about it. When they are finally taken wholeheartedly into school activities by their teachers and classmates, they feel at home, are happy and get along well. In some cases the older adolescents report having established pleasant girl-boy friendships, but on the whole the girls seem less mature in the social phases of sex maturity than American girls.

HEALTH AND PHYSICAL CONDITIONS. These children have maintained excellent health in view of unfavorable experiences. Most of them report that they are strong, and feel energetic, a fact borne out by actual physical examinations and the children's appearance. There was only one child whose serious physical illness could be attributed to exposure in the war zone. In addition there were five who were underweight, or in relatively poor physical shape. Physical defects noted in several cases were: poor eyesight, tooth trouble, defective hearing, and frequent headaches. Not one child in the group was in any way seriously handicapped physically or maimed.

REACTIONS TO LIFE IN AMERICA. These refugee children are enthusiastic about their new life in America. Though as a group they tend to be critical, they admit that America has much to teach them. They find the United States an interesting country. They have been surprised, they testify, at the hospitality they have been shown here, and they appreciate their new educational advantages. They like American schools and teachers. They admit that "the teachers could even be your friends", in contrast to the more tradi-

dional type of teachers in their former schools abroad. They seem glad to be here, anxious to adopt American customs, and express a wish to help win the war for the cause of the Allied nations.

These children take a more serious attitude toward their daily responsibilities than comparable American children. They tend to put work before pleasure, to set high standards for themselves at school; they strive for academic success, aspire to high marks. They report considerable concern over taking tests and examinations, partly, of course, because of their limited English; partly because they abhor the idea of failure and are worried about any obstacles to their success. They seem unusually conscientious about discharging responsibilities that have been placed on them. They are ambitious and willing to work hard. To "get to the top of the class" is the objective of more than one.

The majority of the older boys and girls who expressed themselves on the subject aspire to a college career and to a vocation in the professions. They frankly hope to attain the job that will yield the largest financial income. At least one observed that "the business profits are greater here than abroad." They aspire just as much to success in adult life as they do to success in their present school work. Though the past seemed dark, these children have bright hopes for the future. Several expressed the normal adolescent's wish for happy homes of their own on reaching adulthood.

RELIGION. As a group the children have strong religious faith, strengthened, if anything, by their harrowing experiences. They appreciate religion as a solace, or a bulwark in time of adversity. This attitude contrasts sharply with that of their adolescent American classmates who often show in their attitudes irreverence, thoughtlessness or outright skepticism. To many American children, religion is a formal thing, represented by attending church or Sunday School. To these refugee children, religion is a spiritual consolation.

MEETING THE NEEDS OF REFUGEE CHILDREN IN AMERICA. Meeting the physical needs of these children, assuring them an adequate food supply, clothing and comfortable shelter is not

enough. The facts just cited point to mental and emotional needs that must be satisfied if these children are to be assimilated in their adopted country. What are these needs? First reestablishment of their own family circle wherever this is possible. If this is not possible, then reassurance about their absent ones abroad. In lieu of this provision, these children need to be made to feel secure in a new family circle here in America. They must be "adopted" wholeheartedly by foster parents, brothers and sisters. They need to gain friends at school as speedily as possible. This is a responsibility of the guardians and teachers of these children. To appreciate the refugee children in their midst, to extend the hand of friendship, to show tolerance and sympathy, can be made a truly educational experience for American school children of comparable age. These children need to be assimilated more quickly at school by giving them individual parts that they can play in school and classroom activities, and by giving them as quickly as possible a better command of English. Their fear of not making good at school can be overcome by friendly commendation from teachers, by recognition from the other children.

Their craving for musical experiences, outlets for intellectual and scientific interests and hobbies, can be met through after-school club activities, as well as through opportunities for musical, dramatic, artistic experiences at school. They can be helped to gain skill in some sport so that they will not disdain athletics nor feel left out of physical activities. They can be introduced to opportunities for intellectual satisfactions in urban centers such as New York, through having museum exhibits, lectures and demonstrations brought to their attention. Books should be made available to them in English as well as their own native tongue.

Their time needs to be occupied with socially useful work wherever this is possible. They should be encouraged to enter just as wholeheartedly into war work as their American friends. They themselves confessed that "work is the best antidote to suffering", having their minds fully occupied with constructive things. These rapidly maturing boys and girls need recreational facilities such as the modern youth movement has been

providing for all adolescents. They should be helped to analyze their capacities and to attain the college or professional training for which they seem best fitted. Even more than a comparable group of American children, they need to be helped to become self-sustaining, to contribute to family support as soon as possible. Perhaps they can be shown that money need not be their sole objective, but that service is the worthier goal. These future citizens of a democracy should be instructed in American traditions so that they will cease to be "foreigners" or remain unassimilated, "hyphenated" groups.

More than all, these children need some older person as sympathetic confidant, an understanding counselor who can help them achieve a more relaxed attitude, overcome their shyness, relieve their pent-up feelings and help restore their confidence.—G.H.

REJECTION. This term is of relatively recent origin in child guidance. The first use in writing apparently was by Kenworthy in 1926, although these terms were of common occurrence in the discussions and reports of the Institute of Child Guidance in New York City around that time.

Rejection can be defined in terms of both feeling and behavior. In terms of feeling, rejection refers to the hate and hostility which a parent feels toward a child. In terms of behavior, a parent rejects a child when he or she is aggressive and hostile toward it and fails to give it adequate care and protection. More specially, a parent rejects a child by neglecting it, by separating himself from the child, by denying the child's wishes, by punishment or maltreatment, or by threats of these, by humiliating the child and by more general expressions and a rejecting attitude. As used in child guidance, rejection has a broader meaning than it commonly has in popular usage. Rejection refers to considerably more than the mere fact that a child may not be wanted at birth. It is the general term referring to all negative or harmful attitudes that a parent might adopt towards a child. Parents show their negative attitude by neglecting the child, failing to provide adequate food, clothing or training, or failing to supervise

the child's development. A form of rejection with serious consequences is found in the mother's separating herself from the child as in deserting the child or placing it in some foster home, institute, reform school, boarding school, nursery school, or camp, or leaving the child to the care of others. Rejection may also be shown in denying the child gratification, as through the discontinuance of breast feeding, withholding gifts, or denying the child pleasure. Punishment and maltreatment of the child, whether physical or mental, is another evidence of rejection. Frequently threats of separation or punishment have a great or even greater effect on the child than the act itself. Humiliation of the child through criticism, ridicule, blaming, comparing the child unfavorably with siblings, or meeting the child's advances with coolness or rebuffs, are all forms of rejection. A parent may show her feelings towards a child by showing annoyance with the child, criticizing it to others, being suspicious of the child's behavior, and in general failing to find satisfaction or pleasure in it. In describing rejecting behavior, the term "the parent shows rejection" was used, indicating that rejection fundamentally is the feeling that the parent has for the child which may express itself in various forms of behavior. In some instances the rejection is so pronounced that expressions of it can be easily observed. Usually, however, parents feel somewhat guilty over harboring hostile feelings toward a child, and are careful not to exhibit rejection openly. Sometimes tendencies toward rejection are camouflaged by rationalization, as when a parent explains that the child is being sent away to school for its own good. Perhaps the surest signs of rejection to the counselor at the beginning of his relationships with a parent is the tendency on the part of the parent to be critical of the child. The mother who seeks help with regard to the management of her child, complaining that the child is resistant, stubborn, disobedient, uncooperative, lazy, and vicious, is almost certain to be harboring hostile feelings which have contributed to her management difficulties.

Rejection should not be thought of as a fixed and permanent attitude of a parent toward a child. It is one that

may persist over long periods of time, but on the other hand, it may wax and wane. Some parents reject a child at birth only to find that the care of the infant arouses unsuspected feelings of love. Sometimes parents first reject a child at the age of two or three, when it begins to assert itself, or later when the child meets the challenge of school. Some parents have a tendency to reject a child when it is approaching adolescence, and the maturity of the child becomes a threat to the parent's own needs.

CHILDREN'S REACTIONS TO PARENTAL REJECTION. To the child, rejection is a frustration, and he responds to it as he responds to any frustrating circumstance. A common response to rejection is show-off behavior, which is calculated in the first place to win the parent's love, and if this fails, at least to have the parent's attention which is the nearest token of love that can be won. Show-off behavior in the school or on the playground may be a displaced attempt to win a place in someone's affection, and is an indication that the child fundamentally is rejected. As is the case with any frustration, rejection results in aggressiveness. The aggressive child likewise is attempting to win by force the emotional security that is so necessary for his peace of mind. Rejection also leads to unstable and psychopathic tendencies. Rejected children may frequently be picked out in the classroom as those who are restless and find the necessity of moving about the room. Hyperactive children frequently are rejected.

On the other hand, as is well known, many children raise defences against their own aggressive tendencies and adopt the reaction formation of extreme submissiveness, politeness, and docility.

CAUSATIVE FACTORS IN THE FORMATION OF REJECTION. Factors which are responsible for a parent's rejecting a child may be divided into the immediate and the personality factors. Of the immediate factors, a child may be neglected because it is an economic burden to the parents, because the parents' work requires their absence from the home for part of the day, because of the mother's ill health, or because the child interferes with the activities and aspirations of the parents. One should seek, however, for a

more fundamental explanation for rejection in terms of the personality which parents bring to their families from their earlier childhood experiences. In many cases parents adopt their hostile attitudes toward their children as a **DISPLACEMENT** of similar negative attitudes, usually of an unconscious nature, which they held at an early age toward their parents or toward their siblings. Not infrequently marriage causes a repetition of the earlier triangular situation, and it is found that the parents are displacing to their children the hatred which they held at an earlier age toward a member of their own family. Sometimes parents **PROJECT** their hatred which they are unwilling to recognize in themselves unto their children.

Rejection is a term current in child guidance and social work as a factor which is responsible for a large share of behavior and personality problems in children as they are encountered in school and clinic.—P.M.S.

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See: **ACCEPTANCE, AGGRESSION, FRUSTRATION.**

RELIGIOUS BELIEFS. A child comes into this world according to the general pattern of the biological processes. This pattern reveals a fundamental kinship with the world of organic nature. The child is truly a product of nature as is any living thing. But it is a pattern more complicated than that of most living creatures. Possessing a brain capable of developing the high powers of consciousness, selfconsciousness, reflective thought and speech—nature's crown-

ing thrust of creativity—the child's reaction to its world is replete with a heterogeneity of possibilities.

It has long been held that a child is born religiously. Some theologians and speculative philosophers have held that he possesses an *a priori* awareness of God, or that God is an original datum of the human mind. Psychologists no longer speak of the mental equipment of children as being so prolific in innate ideas or in specific reaction patterns. The word "instinct", and with it "religious instinct", is so weighted with dubious meaning and supercharged connotations that it has become almost taboo in scientific circles.

It is now said that the child possesses, besides the normal physiological modes of behavior reactions, drives all of which have to do with survival and adaptation to its world. But it is always a matter of scientific principle, the law of parsimony, to look for the simplest of reactions, to reduce the apparently innumerable drives to the fewest number in consonance with the facts. Fear, love and rage are regarded by some psychologists to be the irreducible number. Without entering into the controversy among the psychologists, it is sufficient here to affirm that the child begins as a going concern bent on survival and making adaptive reactions to the world in which it unwittingly finds itself.

Although for each child there is a common world of biological needs (e.g. food), the world of the social nexus into which he is born varies infinitely with the cultural, economic, and what is called the spiritual surroundings. Very subtly these earliest influences mark the child. Some psychologists hold that the mark is indelible: that a child entering upon the period of his formal education is already an oak tree set with prejudices and sentiments which will not bend with every breeze.

It is this social world into which the term "religious" appropriately belongs. One may define the religious attitude as that mental adjustment which a child makes, consciously or unconsciously, to the wider social world. By "social" we do not mean social intercourse with other people present. We mean here, rather, the world of societal relations which reach out beyond his grasp, a world of fancy or dream, a world

peopled with unseen spirits akin to his own, to angels or demons, to gods or heroes, to ghosts which stalk in the shadows. Only when he reacts to such a wider social environment, either by being afraid or by friendly commerce, can a child be said to be truly religious.

Such a religious attitude is not in itself instinctive. It is but the widening of the horizon of interests based fundamentally upon the will to survive in a world that is strange and baffling. The shape of his ideas about such a world will vary with his cultural motivation. God may be a man in the sky; the devil may lurk in closets and dark places; angels may be sweet little children flying unseen in space; Jesus may be a kind man who comes visiting with shepherdly interest at twilight before sleep, watching over games or the visiting presence during the Sunday Bible lessons. It all depends upon what ideology has been implanted by the particular social environment. The child's religious response does not consist in the possession of such ideas; it consists in his adaptation to what is for him significant in this larger social world.

A child may possess so-called religious beliefs without being religious. He may be religious without the possession of even the most elementary theology. He need not be in company with others in visible presence to experience the religious frame of mind. His company may be visible only to himself.

As his social world widens, the child's religious spirit will remain the same—it is always fundamentally the same. But his social world to which he reacts religiously will take on new personalities, new ideas, a new framework of reference according to the maturing of his vision. "When I was a child I spake as a child, I felt as a child, I thought as a child; now that I am become a man, I have put away childish things"—this is a classic expression of the laws of biological and social growth.

Is then a child fundamentally religious? The reply is that he is not religious by a special instinct nor by any *a priori* pattern. He is religious as an organism reacting to an ever widening social world. The same biological and psychological laws operate in reli-

gious matters as they do in the give-and-take of everyday living. The difference is plainly the awareness of a beyond-environment which somehow holds for him the strings of fortune upon the world of every day. Does a child possess an innate idea of God? The reply is that the concept of God is in itself not a clear-cut concept even for adults. Nevertheless, for him God is that in the wider social world which matters supremely, in matters of fortune, good luck or destiny. It is also the God, similar on religious terms, of adult religious life.

The worshipful attitude toward heroes or toward a parent or nurse is but the presaging of the religious attitude. The child soon enough finds out that even the wisest whom he knows is not wise enough and he looks out beyond, when need impels. Thus the prayerful attitude is close to the religious; it, too, is the making of an adjustment to the wider environment.

The religious education of children has traditionally followed the method of dispensing a conceived set of truths regardless of the pattern of psychological development. Children have been taught concepts which could have little or no reality for them at their level. "Plans of salvation" have been repeated by the rising generation of little disciples without religious feeling. It is one thing to learn ideas; it is another thing to experience.

The ideology of any person is always significant. But ideas must fit into one's purview. There is no use of talking about the marvels of symphonic arrangements and of musical scores to one who has no apperceptive mass in such matters. He may develop such apperception; but the development requires that he first begin to study the staff, the notes and the fundamentals of rhythm.

The problem then shapes up to this: What religious beliefs should be taught a child? The answer will vary with age and cultural circumstances. It will not be an academic lesson as such. Children like grown-ups do not learn by mere conscious repetition. They learn by those subtle influences which come by way of the behavior of others, by actions which speak more eloquently than words. Our likes and dislikes are the cumulative additions of many in-

fluences of which we are no longer conscious.

The religious beliefs which are valid to be taught a child fall into two classes, both of which are fundamental: first, the moral elements and, second, the metaphysical elements. By the former is meant the kind of behavior-reactions which (if good) make the best kind of adjustment in the give-and-take social world of human relationships. By the latter is meant the kind of world of the child's fancy and imagination which will best (if good) sustain him in his unconscious struggle to make the most of his potentially best. We shall consider each phase separately.

First of all, whatever else a valid religion should contain it should be thoroughly moral. Not all religions, unhappily, can measure to this standard. Immoral ideals and practices have been approved by followers of all religions by whatever the name. Among such vices we may name: hatred toward those not of the same household; ungrounded suspicion, bigotry, foul-play, conceit, false humility, hypocrisy, inhibitions of one kind or another. There is no end to the naming of vices. Religious faiths have sinned here, unwittingly or wantonly.

The matter of moral experience raises the corollary question: Is the child fundamentally moral? Theologians and speculative philosophers have run riot in their theories as to the origin of morality. From one extreme it is said that morals are but expedient mores; from the opposite extreme it is said that each child possesses an innate, a priori conscience which acts as the tyrannical censor lashing the whip of remorse upon actions contrary to it. Again, it is best to turn to the psychologist for an answer. Although scientific opinion is never unanimous in all matters, it is safe to make certain generalizations.

Each child, as indicated in the previous discussion, comes into this world with a biological inheritance. Among the requirements for survival it is necessary that the human being look to his own interests. Otherwise nature would have whipped him out of existence long before in the struggle. On the other hand, it is necessary to look to the interests of others. If individuals did not look after others,

nature would have cancelled out the human species. What has long been called the maternal instinct is but one evidence among many of the necessity to look out for the interests of others in the total program of survival. Self-regarding and alter-regarding interests are twin motivations (among others) for the preservation of the species. It is in this struggle that may be found the biological basis for morality. Our drives are in themselves a-moral. But these drives in terms of each other and in terms of the environment where the struggle to live must be carried out are the raw materials for morality. Were there no struggle there could be no morality. Moreover, only where the individual has advanced far enough in his self-development, where there is the possibility of mastering the situation for his own good and the good of the species to which he belongs, only there is morality actually born.

An infant, then, is a-moral. It becomes moral at that stage at which he has attained the capacity for self-direction. He is not a born sinner (nor saint). The doctrine of original sin widely taught in many theological circles is right in its affirmation of man's inherent struggle but wrong in its denial that the struggle contains potential good. That same doctrine has horribly confused an irresponsible morality with responsibility-morality. Man is not responsible for his biological equipment and the charge of sin against him on that score is an immoral charge. An irresponsible morality is no morality or, if it is, is an immoral morality. A child is a moral creature not by inheritance. It becomes moral as its inheritance is brought under the possibility of control. Thus we say that a child with a brain lesion is not a morally responsible creature.

A valid set of religious beliefs will inculcate by conscious persuasion or by unconscious motivation (which the child picks up in the fringe of his consciousness or by sheer imitation) a kind of living which will harness the self-regarding and the alter-regarding interests into a mutual interplay or harmony that will make for his own best interests and the interests of his species. A refusal to cooperate with himself and with others toward this end is, when the way is open, sheer

sin. The deliberate failure of parent or guardian to help toward this end, when the way is open, constitutes an even greater sin. The older recapitulation theory by which it is said that each child passes freely through the stages of his ancestors from the primitive to the civilized phases is not only psychologically open to question but when applied to educational procedure wholly negative. Have not the elders the responsibility of directing their children in moral matters as well as in physical, inasmuch as nature has entrusted them to their care for so long period of time? This entrustment implies prohibitions (which the recapitulation theory of education denies) along with the encouragement of independence. Many so-called "problem children" are really the reflection of "problem parents." Children which have not experienced definite prohibitions at home have not been helped on their course. Self-direction remains always an ideal; but often self-direction comes by way of learning the prohibitions.

A religion that is moral thus begins much farther back into the child's life-history than has always been imagined. The responses of a child to the bottle, learning to mediate between the cruel pangs of hunger and the necessary patience in securing the fulfilment of immediate demands is a situation fraught with moral implications. Such is one but among many of the little springs of moral experience from which the channels flow into the wider stream of moral character.

Character may be defined as that socially ingrained pattern of mind which tends to set the course of specific behavior in specific situations. A character is a disposition built out of innumerable experiences over a long period. It is not achieved overnight. A religion can be said to be good only if it, by its teachings and practices, contributes to the kind of character or mind-set which brings to fruition man's best possibilities in the give and take of social living. For we live not to ourselves alone.

• The second consideration in a valid religious set of beliefs has to do with the metaphysical. If the child's wider social environment is peopled by immoral beings or fancies which produce in him horror or futility or irrespons-

ibility or mental ill-health, such a religion is bad. Religious faiths have fallen short at this point as well. Scaring a child to be good by the threat of hell and torture, by tyrannical demons and devils, is a case in point. By giving him the impression that God will take care of him without any responsibility of his own is equally bad; for the child will learn by the exigencies of experience that he must learn to take his own initiative and carry his own burden of responsibility. God, indeed, may take care of him; but such a care may depend upon elementary responsibilities.

The world of a child's fancies and imaginings is real to him at a given level. This world should never be crushed. The life of imagination is the essence of the delights and rewards of discovery. Such a world must be populated by the right kind of beings. There is no harm in talking about angels and demons if the angels are properly good and the demons properly bad. Even Santa Claus has his mission to perform and a mission that is full of fine potentialities. One need not go into the discussion with the child of their metaphysical reality except to show, when called upon to elaborate, how limited is all of our vision and how infinitely greater is the world about us. No one, even in his maturest years, will ever grow so wise as to dispense with symbols. All knowledge about that which lies beyond our ken must be symbolically treated; otherwise the beyond is as nothing. Symbols will be recast into new forms as the vistas increase but they are ever the servants in our grasping out toward the horizon, whatever our age-level may be. Unless there is this metaphysical side to our religious beliefs, such beliefs will drop back into a mere code of ethics. But man, and the child more so, will never be content with a pattern of mere ethics so long as there is with him the disposition to struggle to get on with the wider social environment of which he becomes aware. The religious spirit has metaphysical as well as moral implications.

One of the master teachers of religion taught by means of parables and fables. Through these, both old and young were made, and still can be made, to see, however dimly, truths which are sub-

lime. The realm of fancy need not be an unreal world. Fancies may be the mirror reflecting realities over our shoulders or the glass through which we see darkly. He who lives without fancy has not measured up to his full stature. The imaginary world of both old and young need not be purely fictional; it may even be the very means of knowledge. Men of research confess, as do the artists, that flashes of truth came upon them as they played with concepts in the wildest orgies of speculation and imagination.

The good religion will match the child's environment and appeal to his sphere of dreams; but it will be good only so far as his imaginations are themselves good. What makes an imagination good is that it will call out of its possessor the best that is within him.

It is now a truism that the immediate family is the real dispenser of influence during the formative years. The mistake of many sincerely religious adults has been to force their theology and religious practices upon children in ways to bring about deepseated resentment issuing in the negation, in later life, of all forms of religion. No religion can be weighed as valid on the scales of mere sincerity. Even the Devil is sincere. A religion to be valid must be healthy and normal and natural. The child must be brought into ways of guidance which will make all phases of life normal and natural. The line between the secular and the sacred must not be drawn too tightly. The older conventional practices of many stalwart religious people to exact of their children a definite type of experience (notably that of "conversion") has now become almost universally recognized as malpractice. Indoctrination is always permissible as an educational principle. How, otherwise, shall we learn the wisdom of the past? But indiscriminate indoctrination is tragic. To expect each child to measure his religious stature by a single type of experience, be it doctrinal or emotional, is to make of him what he is not. No two leaves on any tree, although similar, are exactly alike.

A "laissez faire" attitude on the part of many parents in matters of religious education is one that is replete with as many ills as an overdose of indoctri-

nation. It should be evident that the religious attitude without a valid set of beliefs is worse than no religious feeling whatsoever. It is as important that a proper sense of values be sought towards the building of a good religion as it is to know the elements which go into a proper diet towards the maintenance of good health. Here is where we must rely upon expert opinion and not upon any one who claims a genuine religious experience, called by whatever sacred name.

Organized religion tends, like all institutions, toward rigidity and fixation. The balance shifts from means to end. Organizations have their genesis as instruments but before long turn towards themselves in maintaining self-perpetuation. In the training of children this tendency has played havoc with the sensibilities of the young. Religion has taken on a formal and unreal aspect. Reactions have set in to make potential disciples look upon institutional religion in any form as artificial and of value only to grown-ups about ready to die. The measure of organized religion in this regard, is to apply the standard of pragmatic functioning in terms of the child's own reality-feeling. A good barometer to test any institution as to how far it has gone in an undue emphasis upon self-preservation is the criterion of its ability to adjust itself to a proposed reform; if its response is plastic, the situation is probably favorable for real service to the rising generation.

When all is said and done, the religious training of children will follow the course of secular training. The religious mind is no different psychologically from the secular. Each child brought up within a specific religious household should be expected to respond loyally to that household only so far as its teachings and practices may be found to be fundamentally valid and real for him. Organized churches cannot expect its younger generation to acquiesce obediently to mere tradition; churches must make their traditions intellectually and realistically acceptable and sufficiently plastic for the inclusion of man's ever enlarging vision of his world. A child's loyalty to his church may justly be judged on the principle that it is an instrument made for him and not that he has been made for it.

Provincial loyalties thus must move on to those more catholic in scope as the manifold ways of the Divine become more evident with increasing knowledge and understanding.—V.F.

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REMEDIAL WORK. The concept remedial work has been used in a great variety of ways. This diversity of ideas as to the meaning of the term has been due largely to differences in educational goals on the part of those using the term and also to some extent to misunderstanding regarding the basic psychological principles of individual differences. In the next few paragraphs some commonly held but doubtful if not educationally dangerous concepts of the purposes of remedial work are analyzed.

The idea has been commonly held that any individual who is at least one grade level below the grade in which he is placed is a fit candidate for remedial work. This concept is dangerous for several reasons. In the first place, it implies that all children in a particular grade should be able to do the same quantity and quality of work; in other words, there is the assumption that all children should be average or above and if the learner is not average then he should be given "remedial work." Not only is this goal impossible of achievement but it is recognized as psychologically unsound by those with a functional knowledge of individual differences. In the second place, the concept implies that no learner who is above average is retarded and therefore an above average learner could not be in need of "remedial work". Let us examine these assumptions in relation to a relatively narrow but obviously important area in which remedial work might be done.

Consider three youngsters aged eleven

years, two months, who are in the fifth grade. Mary has a reading age of 9.5; John's reading age is 11.3; and Jean has a reading age of 12.2. We are unable to tell which of these are retarded in reading until we know the approximate mental age of reading capacity of each. By testing we find the following picture:

	Gen'l. Reading Achievement	Mental Age or Reading Capacity
Mary	9.5	9.5
John	11.3	11.6
Jean	12.2	15.0

Assuming that both the reading test and the capacity test are reasonably valid, we are now in position to say that Mary, the poorest reader, is reading about as well as should be expected in view of her capacity; John is slightly retarded; and Jean, who is the best reader of the three, shows the greatest amount of basic retardation. Thus, we see that the slowest and poorest reader is actually the least retarded while the fastest and best reader is apparently retarded about three grades in reading. Thus, if any of the three children is to be given remedial work it would appear that Jean, the best reader, is most in need of it.

As it will be noted, the two basic factors which one needs to consider and compare in evaluating the extent of general reading retardation are reading **ACHIEVEMENT** and reading **CAPACITY** (or mental ability). The former can usually be determined most profitably by a good diagnostic reading test which not only gives the general reading level but also indicates achievement in specific kinds of reading abilities such as reading to follow directions, to get the central thought, to draw inferences, to get details, to integrate details, to skim, etc. Reading capacity, the second factor, can usually be determined best by means of a non-reading intelligence test or by a reading capacity test such as that of Durrell and Sullivan (Durrell, D. D. and Sullivan, H. B., **READING CAPACITY TEST**. World Book Co.).

As has been indicated, general retardation can be determined by comparing reading capacity with reading achievement. Retardation in each specific phase of reading ability may be found by comparing the reading capac-

ity with achievement in each measured part of reading ability. For instance, if we add three columns to the table already given, we find:

	Getting Details	Getting Thought	Cent'l Drawing Inference
Mary	10.9	9.0	9.6
John	12.0	10.5	11.4
Jean	14.8	10.0	12.8

This would indicate that each of the three is most retarded in "reading to get the central thought." This phase of reading training has apparently been considerably neglected, with these three youngsters at least. It is quite possible that an excessive amount of time has been given to drill in getting details. A readjustment of teaching emphasis in reading should seriously be considered by the factors of these three pupils if they believe that reading to get the central thought is of some importance.

It is possible in a fashion similar to that described in the two preceding paragraphs to determine in which phase of **SUBJECT MATTER** retardation in reading is greatest. A youngster may be greatly retarded in his reading of history and approximately up to capacity in his reading of mathematics, or vice versa. An analysis of retardation in a subject matter field involves giving a reading test on the subject matter in that field and comparing the results with reading capacity as determined by the non-reading intelligence test or the reading capacity test.

When suitable tests are available to adequately measure reading interests, attitudes, and the uses of reading, it may be possible to determine with reasonable objectivity the approximate amount of retardation in these spheres and consequently to determine the probable need for remedial work.

The concepts of retardation and remediation are extremely complex but before we can intelligently approach remedial reading we must know what youngsters are most retarded. That child is most retarded in reading whose functional reading achievements are farthest below his reading capacities. He is the child whom someone has neglected or trained improperly in reading. He is the child who now needs the most

training in the improvement of reading with particular emphasis on the kinds of reading in which he is weakest.

It should also be pointed out that it is dangerous to restrict the concept of remedial work to the mechanical aspects of skill subjects. Many teachers who have done this have produced pupils who well know how to read but whose attitudes toward reading are such that little or no functional use of reading either for enjoyment or for problem solution is made. How to read has been learned in such a way that the skill is practically worthless after its acquisition. Development of proper attitudes toward a skill and of day-to-day uses of the skill are as important as the acquiring of the skill itself and these should all be developed concurrently.

The concept of remedial work in terms of narrow goals without due reference to major educational purposes is to be avoided. For example, in some remedial reading programs excessive emphasis has been placed upon speed with the result that attitudes, comprehension, and most important of all, functional use of reading have been neglected and in some cases these have actually deteriorated.

A sound concept of remedial work also demands recognition of the fact that desirable remedial training will not pull all learners together; rather, the best education will develop each to the limits of his potential ability and so produce even greater diversity in level of achievement than now exists.

A concept of remedial work which would be psychologically sound would involve: diagnosis of learner's needs, potential abilities, and present status; setting up of goals or objectives and planning effective means of reaching these goals; and developing techniques for evaluating past activities so that greater progress may be made in the future. It should be emphasized that all of these steps should be planned and carried out not by the teacher as a dictator but by the teacher and learner working cooperatively. It will be noted that sound remedial work and sound teaching and learning are essentially the same. Both involve starting with the learner where he now is and devising with him ways and means of moving ahead as far as possible to-

ward goals of recognized importance which have been jointly set up by the teacher and learner. As a matter of fact it is very questionable whether one should attempt to draw any sharp line of demarcation between good remedial work and good teaching and learning. The psychological principles of learning and teaching are essentially the same in both cases.

Since diagnosis is one of the first and most important steps in remedial work, the question may well be raised: What shall we attempt to diagnose? The question may be very briefly answered by saying that it depends upon the particular skills, attitudes, and characteristics which those most concerned with any remedial program see as most important. The type and variety of these particular attitudes, skills, and characteristics which a remedial program may emphasize are not generally recognized. The following list contains some of the characteristics, abilities, etc., which it has been found useful to investigate as a first step in remedial work: attitudes toward school and particular phases of school work; potential intellectual ability; health habits and knowledge; individual purposes, goals and objectives; ability to identify problems upon which it is important to work; general resourcefulness of the learner; social practices, knowledge, and adjustment; individual adjustment; personality characteristics; abilities in such skills as reading, writing, typing, and driving a car; ability to think critically; ability to plan study; study skills; ability to get and use resources appropriate for efficient learning.

A few of the sources from which one may obtain measuring tools of value in diagnosing needs in some of the areas listed in the preceding paragraph as well as in many other areas are the following: Bureau of Educational Research and Service, Extension Division, The State University of Iowa, Iowa City, Iowa; Bureau of Publications, Teachers College, Columbia University, New York, N. Y.; California Test Bureau, 3636 Beverly Boulevard, Los Angeles, California; Cooperative Test Service, 15 Amsterdam Avenue, New York, N. Y.; Educational Test Bureau, 720 Wash. Ave., S. E., Minneapolis, Minn.; Evaluation in the Eight

Year Study, Progressive Education Association, 6010 Dorchester Ave., Chicago, Illinois; Houghton Mifflin Co., 432 Fourth Avenue, New York, N. Y.; The Palmer Co., 370 Atlantic Avenue, Boston, Mass.; Public School Publishing Co., Bloomington, Illinois; The Psychological Corporation, 522 Fifth Avenue, New York, N. Y.; World Book Co., Yonkers, N. Y.

The reader may obtain from each of the sources listed in the preceding paragraph a list of diagnostic materials without expense to himself.

The following suggestions pertaining to goals, materials, and methods will be found helpful in guiding those wishing to develop a sound "remedial work" program:

1. The goal should not be to try to bring everyone up to average.

2. The goals for a particular learner should be set up with the following factors in mind: his present status or level of achievement, his potential ability, his own goals, purposes, attitudes, and ambitions. Unless all of these are given sufficient weight the remedial work is likely to be relatively unsuccessful.

3. Emphasis will be put on helping the child meet his needs and problems rather than upon academic grade standards arbitrarily set up.

4. "Ground to be covered" or memorized in the text will be considered relatively unimportant; individual adjustment and growth will be considered of paramount importance.

5. Not only should the AMOUNT of work the below average pupil is expected to do differ from that expected from the above average child but the KIND of work should frequently be very different also. The longtime needs of the lower twenty-five percent of learners differ significantly from those of the upper twenty-five percent.

6. Needs and abilities of the learner should be considered much more important in the selection of materials than the grade label of the materials. In other words a "seventh grade textbook" may be very unsuited to the needs and abilities of a particular seventh grade child; the material may be too easy or too difficult or simply not the kind of material he needs.

7. Serious attempts should be made to individualize the work in and out

of the classroom so that each learner gets what is likely to be best for him. To do this successfully it will be necessary for the teacher to train the pupil how to participate more fully in decisions relating to what he shall study, how it is likely to be best for him to study, how to get appropriate materials, how to evaluate the extent to which he is moving toward goals he and the teacher have together set up.

8. The teacher should try to find out at what levels of behavior the learner is operating and then start with him there and try to pull him gradually to higher levels. The teacher should not, as is frequently done, force the child into a prearranged schedule of study, regardless of his needs or the ability levels upon which he is now successfully operating.

9. No child should be failed because he has not reached a level of achievement arbitrarily set up without reference to his needs or abilities.

10. No child should be unfairly forced to compete with others of much more potential ability even if they are in the same room and grade with him.

11. Labels on learners such as "bright", "dull", "dumbbell", "retarded", etc., should be avoided by teachers and learners insofar as that is possible.

12. Typically it is probably unwise to segregate learners for remedial work. Such segregation has some advantages but it frequently tends to produce embarrassment and emotional upsets which are undesirable.

13. The "remedial work" should typically be done by well trained regular teachers as a part of good teaching rather than by a few isolated individuals labeled "remedial teachers".—R.H.S.

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See: READING DISABILITY.

RETARDED CHILD. Retardation has long presented a problem in the public schools but it has been greatly accentuated by the enforcement of compulsory school laws requiring attendance to fourteen, sixteen and even eighteen years of age. Social pressure, too, has encouraged a large majority of pupils to continue on into high school work, often without regard to aptitudes and interests.

Throughout the ages, varying attitudes toward incompetents have prevailed and numerous attempts have been made to alleviate the problems they present. In ancient Greece and Rome exposure of undesirable children was common. Undoubtedly many incompetents were eliminated in this manner. During the medieval period the dominance of Christianity resulted in a more sympathetic attitude toward all unfortunate deviates. They were housed in asylums provided by the church, given support and protection, and were referred to as "enfants du bon Dieu" because they were believed to be under divine care and guidance. With the separation of the church and state and emphasis upon individual responsibility for behavior, during the period of the renaissance, all incompetents were believed to be in league with the devil and consequently they were incarcerated in the most inhuman and brutal manner. Beginning with the work of Pinel and others near the beginning of the nineteenth century a more wholesome and rational attitude began to develop, emphasizing a sense of social justice. A need for training as well as for physical care of defectives was stressed by Seguin as early as 1837. In 1846 he published his book on the education of the mentally deficient. A special class for backward children was

started in Halle, Germany, in 1859, hoping thus to provide motivation for greater effort. A few special classes for retarded children were started in the United States late in the nineteenth century but they did not become common until the first quarter of the twentieth century, and even today the situation is still acute.

Retardation is primarily an educational problem. It pertains to rate of progress in school. While retardation is commonly associated with low mentality, many factors other than inferior intelligence may contribute to it. A child who is retarded is over-age for his grade. The percentage of retarded pupils increases in the higher grades. This is to be expected since many factors accounting for retardation tend to interfere increasingly with school progress as the work becomes more difficult. This fact makes it impossible to give any definite figures on the extent of retardation. Again there are varying degrees of retardation from less than one year to several years. Some degree of retardation may be found at any level of mentality throughout the entire normal curve of distribution. However, it is most common in the lowest twenty percent of the distribution and some degree of retardation is almost certain to be present in the lowest ten to fifteen percent. Most mentally deficient children, that is, those with intelligence quotients below 70, are almost certain to be retarded on entering school as are also a majority of the borderline group between 70 and 80 in I. Q. This constitutes about ten percent of the general population. To this figure must be added many pupils from the approximately fifteen percent ranging from 80 to 90 I. Q., designated as below average, and in the higher grades some who test as normal, 90 to 110 I. Q.

In addition to the group testing low in intelligence there is a sizable group who are mentally competent but who are retarded from various other causes. Thus it seems safe to conclude that by the end of the primary period (Grade III) about twenty-five percent of children have not completed school work in keeping with their chronological ages, and that by the close of the compulsory school period (14 to 18 years) the number has increased to almost fifty percent. These estimates tend to be substantiated

ed by data compiled by Mott and Featherstone (1932). Some groups of retarded children are not included in their figures. Many children in the lowest one to three percent of the general population never enter the public schools. This is true of all idiots and most imbeciles testing (in general) below 25 I. Q. and 50 I. Q. respectively, of some low grade morons from 50 to 60 I. Q. and also of a large number of children with marked physical and emotional handicaps.

Extensive investigations indicate that the major factors accounting for retardation are those pertaining to the development of the child. As has been stressed, low mentality accounts for a large percentage of retardation. Subnormal children develop more slowly than normal children. Thus, although they are chronologically six years of age and meet the legal criteria for school entrance, mentally they may be only four or five years old. They are too immature to begin regular school work. Since they are unable to do the work expected they may develop a dislike for school and form bad habits which will handicap them throughout their school careers. Disability in specific school subjects, physical defects, such as sensory, motor and speech handicaps, all interfere with normal school progress, as do also emotional and social immaturity, lack of interest, personality and other behavior difficulties.

Factors pertaining to the home and neighborhood, such as material, intellectual, emotional and moral conditions, are influential in determining the child's educational development. Poverty, emotional immaturity and instability, and immorality, as a rule, show a fairly high positive correlation with backwardness. A child from a poor home is deprived of many necessities essential to normal development and often his time is spent in building destructive rather than constructive habits. He is more frequently malnourished, has more physical defects, and receives less medical care than do normal children. A foreign language spoken in the home may serve as a handicap in both oral and written work.

Among the school conditions which retard progress are immaturity, lack of readiness to enter school, inadequate

background for particular work, frequent absence, change of schools, too little individual attention and guidance and ineffective teaching.

Numerous studies indicate the following characteristics to be quite generally typical of retarded children: physically inferior even though they may be larger than their younger classmates, sickly emotionally and socially maladjusted abbreviated vocabularies, interests which are simple and limited in number, slow in reaction time, short attention span unable to generalize and to work with abstractions, low in initiative, originality, and auto-criticism, poor habits of application, easily influenced, and frequently delinquent. Backward pupils require an unusual amount of help and guidance because they have difficulty with language symbols and in assimilating material, they require simple, detailed, concrete subject matter, have poor memories for abstractions, and are unable to coordinate two or more mental functions.

Continued experience suggests that reducing the amount of retardation in our schools is essentially a clinical problem. A careful individual study of a child with wise training and guidance from earliest infancy should eliminate some of the factors resulting in failure and the consequent retardation. The effects of too much or too little home guidance, emotional and social immaturity, meager vocabulary and experiences may be overcome to some extent by pre-school experience in a good nursery school or kindergarten. Individual attention and thoughtful sympathetic guidance, as needed, during the early years of school life particularly with regard to tool subjects—reading, language arithmetic, spelling and writing—and in drill work, should prove very beneficial. Special methods of instruction, making all work as concrete as possible, and grouping by the classroom teacher may increase the chance for success.

From an administrative standpoint the main contributions have come through hiring clinicians or special teachers, formulating special curricula and by organizing special classes, special rooms or special schools. A well trained clinician or one or more special teachers with clinical training for each building, depending upon the need, are invaluable in school systems for mak-

ing careful case studies, and for diagnosing individual cases. They should be trained to administer standardized tests, to give individual guidance and to do remedial teaching in reading, arithmetic and other fields. Some small schools have found it necessary to use special teachers part-time only for clinical work and the remainder of the day for regular teaching.

The special curricula for retarded pupils usually stress practical work which prepares directly for life rather than for higher education which few of these pupils ever take up. Various occupational curricula may be planned which prepare pupils for immediate entrance into a vocation. Sometimes a curriculum is planned along the line of some avocational interest or interests.

Special classes, rooms or schools should be arranged for, depending upon the size and the needs of the group concerned. Most school systems of any size have need for some such arrangement. In any plan of special grouping the number of pupils assigned to any one teacher should be kept small enough to allow for individualization of some of the school work to enable each pupil to proceed at his own rate. However, the social development of pupils must not be lost sight of. This necessitates their functioning as a group in some of their activities. Activity units have been planned for special classes involving materials that can be manipulated rather than expending effort in reading and writing. Wholesome social and personal adjustments and constructive, effective, citizenship are the goals for which we strive in planning the education of retarded pupils.—L.G.P.

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REWARDS. Broadly understood, reward includes not only material signs of approval, recognition and encouragement

(gifts, money, a special kind of dessert, additional recreation, etc.), but also psychological ones (words of praise, an approving smile, etc.). It must be said, on the whole, that the latter are to be preferred, unless used in a crude way (e. g. flattery), for material rewards, especially money, are likely to be interpreted as compensation for the effort or even as bribery. Besides, if material rewards are given frequently, praise may lose much of its value.

In child guidance, reward should be considered primarily as a positive means of motivation rather than as a question of justice. As such, it has been found to be one of the most powerful ways—definitely superior to that of punishment—of establishing, controlling and directing the child's good conduct, provided the reward is chosen judiciously, with a clear goal in mind. In fact, there is no better way of making the child develop proper habits of cleanliness, orderliness and obedience. If the mother wants her child to establish, for instance, the habit of brushing his teeth, she must not fail, in the early months of such training, to notice his doing so, and express her pleasure; the child may expect approval and should not be disappointed. Especially important is reward in moral training. A good deed should always be noted and commented upon; it may be useful also to praise other boys and girls for something the parent wants her child to imitate.

In rewarding, it is essential, first, to make it clear to the child that he is encouraged not for his 'goodness' but for his action; this will divert the child's attention from himself to objective manifestations of good conduct. Second, it is necessary to make it clear to the child exactly what he is rewarded for; for otherwise, pleased as he may be, he may not seek repetition of the approved behavior.

See: PUNISHMENT.

RHYTHM. In order to appreciate the significance of rhythmic education today we have to recognize that the idea which has given it birth is no new one. The Greeks recognized its value and applied it and its re-creation, as

an educative force, at the beginning of the 20th century, served as evidence of its enduring reality both as an expression of living experience and as a method of education.

The term 'rhythm' originated from the Greek RHYTHMOS-RHEO, which means 'flow' or 'flowing'. Plato defined rhythm as "the expression of order and symmetry which penetrates by way of the body into the soul and into the entire man revealing to him the harmony of his whole personality." He also says: "And he who mingles music with gymnastics in the fairest proportions and best tempers them to the soul, may be rightly called the true musician and harmonist in a far higher sense than the tuner of the strings." With the decay of Greek culture rhythm disappeared from education. During the centuries that followed it was made use of in the theorizing of philosophers who concerned themselves with ethics and religion, by artists, and by scientists.

At the beginning of the 20th century, Emile Jaques-Dalcroze, born in Vienna, an unknown teacher of harmony at the Conservatory of Music in Geneva, gave a demonstration with his pupils of a method of musical education at a convention of artists and educators. It was his contribution to the problem under consideration, viz. to enrich the over-intellectualized type of education of those times by the introduction of art. Dalcroze was opposed to routine and mechanical drill, which was the accepted training for musicians. He had created a method which was intended to help his pupils to become thoroughly musical. He had invented a number of exercises for the training of ear and for the development of perception of rhythm through motion. To this end he introduced beating time with the arms and stepping in time to note values while he improvised on the piano. He had come to the following conclusions: the human body through its capacity for rhythmical motion could translate musical rhythms into movements and thus people could identify themselves with musical sounds and experience them intrinsically. His term "realization-exercises" indicated this translation of rhythmical patterns of music into steps, where the tempo of each step had to correspond exactly to the duration of each note. Dalcroze

went to the length of elaborating a system which brought "realization" of the different voices of whole polyphonic musical pieces.

Going deeper into the matter of musical rhythm Dalcroze gradually made his pupils "realize" accents, pauses, anacrusis, acceleration, crescendo, rhythmic contrasts, etc. His method was to improvise his own music, that is accents, pauses, anacrusis, etc. and have his pupils "realize" them either by pre-arranged or by improvised movements, intuitively at first and without letting them know what he was going to play. The intellectual analysis would follow.

There was of course a difficulty in body response to be overcome. He therefore evolved a series of "loosening up" as well as "independence exercises" for limbs, trunk and head, so that each pupil learned to move in independent measure. Moreover, he developed a number of inhibition, concentration and spontaneity exercises, causing the pupil to react immediately and without reflex movements to a given musical signal.

Nor was this all. It was not only that the system was new, but Dalcroze possessed a creative spirit and invented many other unusual exercises in connection with music. His revolutionary ideas attracted the attention of thousands of musicians, dancers and educators, who came to study with him or watch his demonstration and dance performances.

Dalcroze realized that his educational work and ideals could only be fully effective if used with children as well, and accordingly developed his method considerably. It was introduced into elementary schools and kindergartens and received recognition from physicians and psychologists. It was applied in institutions for neurotic, retarded and feeble-minded children.

In the course of time a number of training schools for teachers of his method were established and Dalcroze eurhythmics were taught at many Universities, Conservatories of Music and similar institutions in practically every country of Europe. In America at the present time there are many teachers who have studied the method and are teaching it in Universities, Colleges, Art schools, elementary schools, kindergartens, and private studios all over the country.

It was only to be expected that Dalcroze's pupils would introduce variations into his method as they became influenced by new trends in education and art, particularly in the dance. Eurhythmics has always depended on the personality and interests of its exponents and still does. There is consequently considerable variety to be found in the teaching of it and many changes have come about. For instance, the "realization exercises" have become modified by eliminating the stepping to very quick notes, as these were unsuitable for the body. The tendency grew to depict broad musical phrases instead of breaking them into detailed time patterns. Greater freedom came to characterize body movements. Improvisation of movement as well as music, such as singing, playing on percussions, became more common. Dalcroze's "leading and following" exercises, where one pupil leads another, or the teacher, or the whole group, by improvised body movements, were elaborated in many ways. Freer dance movements once included, problems of space and dynamics became evident and gave rise to new experiments and exercises in the field of the rhythm of the body and the dance. Music came to be excluded sometimes entirely in exercises where the starting point of the pupils was dance movement rather than music. Out of such work, which emphasized body movement as much as musical expression, the necessity arose to observe more the body and its inherent laws of locomotion. The conclusion was that not all rhythmical body movements necessarily have to correspond to musical rhythm; that music should sometimes be avoided in order not to hamper the natural development of the rhythm of the body, since the rhythm of the body movement is dependent primarily on dynamics and space in connection with the laws of gravity and should not always be restricted by the regularity of the musical beat. Moreover physical training became indispensable and was included into rhythmical education.

Rhythmical education, however, which allows considerable freedom of approach has given rise to some confusion, chiefly because rhythms are often taught by those who have remained aloof from the ideology of the originator. Thus, in many cases the word "rhythms" or

"rhythmic activities" is being used for an activity by children, in which the child "makes up" movements, dramatizing ideas or stories accompanied by music or action songs, or expresses by "made up" movements the dramatic ideas of descriptive music or the mood of a musical piece. Certain of Dalcroze's exercises are sometimes included.

Dalcroze's true followers, however, base their work on his ideas, rather than on mere imitation of his exercises. Their creative work develops original theories and adapts them to new situations. This is most apparent in the sphere of child education. Here Dalcroze's disciples approach the problem of the place of eurhythmics in the education of children from consideration of its influence in the psychological and physiological development of the child. Special stress is laid on a natural and harmonious coordination of body, spirit and intellect.

The term rhythm has come to be applied in its broadest significance. It is a phenomenon, manifesting itself everywhere in nature, in everything living. It expresses itself through certain laws in time, dynamics and space, which remain unexplained. Yet there are people who recognize harmonious rhythm intuitively, a faculty which can be improved with training. Rhythm is perceptible to man by his acoustic, optic, tactile and kinesthetic sense. Rhythmic occurrences affect the soul. Man has an unconscious impulse, practical or aesthetic, to carry out all his actions in a rhythmic sequence. This tendency, varying with individual endowment and environmental influences, can be developed. The feeling aroused by rhythmic events is not easily conveyed in words and there are few people who are capable of appreciating the experience fully unless they have lived it.

The educational aim of rhythmics is to encourage the child's powers of organizing his deeds in harmonious (rhythmical) order through "living the experience of rhythm", that is through experiencing, discovering and creating rhythms.

The educational approach is through music and dance and the content of the child's ordinary experience is used as a foundation for developing it. There is, for instance, rhythm in the flight of

a bird, in grass swayed by the wind, in thunder and lightning, in the falling of snow, or the pattering of raindrops on the windowpane. And there is the rhythm of the heart, which we feel in moments of heightened tension, rhythm in our foot steps, in the movements of our limbs, in the spoken word or phrase. This is rhythm of nature and life. But rhythm is more inescapable in art than in nature. In art, rhythm has translated sound of nature into music, it has transformed everyday life movements into dance movements (typically enough we call dance movements in popular language "rhythmical movements"), it has changed clay into form, colour into painting, the spoken word into poetry. Of all the arts it is in music and dance that rhythm is perceived by us most clearly. We feel rhythm in a good musical performance because the sounds are well organized in (1) time (sometimes slow, sometimes fast), well ordered in (2) dynamics (sometimes loud, sometimes soft), and well built in (3) melodic and harmonic progression, which we might call the movement in the space of music. We feel rhythm in a good dance performance because the dancer's movements are coordinated, that is, well ordered in (1) space (high and low, forward and backward etc.), well balanced in (2) dynamics (tense, relaxed, strong, soft), and well proportioned in (3) time (fast and slow.) Here again, time, dynamics and space are the three factors which are determinants for the existence of rhythm. All those three factors form the rhythm and although inseparable they are apparent in different proportions. Time is expressed mainly in tempo, measure, phrasing, note values, note patterns, acceleration, retardation, rhythmical contrasts, pauses etc.; dynamics in stress, accents, crescendo, decrescendo etc.; space in melodic progression, high, low, up, down etc., in the case of music; in lines, levels, group formations, directions, etc., in the case of dance. The material applied by the teacher in her approach consists of all those essential elements which express time, dynamics and space in music and dance. She usually chooses one of them as the objective of any single lesson and then finds exercises which give the child the possibility of experiencing it naturally and spontaneously.

The procedure is as follows: I. Self discovery of the objective through the child's own body movements and senses. II. Creation of the objective by all possible means, through body movements, speaking, singing, drawing, playing on an instrument. III. Recognition and discovery of the objective in music and dance.

The following is an example of the procedure adopted in a typical lesson. An exact picture, however, cannot be given, because the procedure will largely depend on the reaction, suggestions and collaboration, and last but not least on the age of the children. Moreover, naturally, every lesson will vary considerably, according to the objective selected.

Let us say that the teacher chooses crescendo as her objective. The lesson will take the following procedure.

I. Self-discovery of the objective: (1) The teacher may start by having the children personify and dramatize an approaching storm or a flame which grows into a fire. It is understood that she does not give the clue to her aim until she sees that the children have arrived at the discovery of it. (2) She may have the children perform by body movements a crescendo, which she plays improvising on the piano, or beating on a drum. (3) A child may conduct a group in choral speaking by indicating by his arm movements a swelling of force. (4) The teacher may induce one child to stamp; then one by one they all join in until the whole class stamps collectively which gives the children acoustically, optically and kinesthetically the feeling of crescendo. (5) She may suggest that a child should try to design one or more lines following the crescendo on a drum. Thus it will be seen that they come to appreciate crescendo acoustically, optically and kinesthetically at the same time. Now, she may ask them directly, where they would find swelling of force in nature and life (an approaching band, the air-raid sirens, factory whistles). Only after the children have discovered it in many ways, will the teacher apply the term *crescendo* to the experience.

II. Creation of the objective: (6) Now one child may be urged to hum a melody of his own in *crescendo*. (7) Another one may make up a movement

pattern in crescendo. (8) They may invent crescendo with balls, hoops, ropes singly, (9) with partners, (10) with percussion instruments, (11) with lines on the black board or the like.

III. Recognition and discovery of the objectivity: (12) Now, the teacher would show in music, on records, in piano pieces or (13) in songs, which the children may sing conducted by a child, where crescendo was created by the musician or may be created by the conductor of the song.

Crescendo will now have a new meaning for the children, become a happy revelation and part of the content of the child's experience.

The psychological objectives and educational aims of such a lesson are:

1. The satisfaction of the child's desire for muscular activity and play applied to constructive end.

2. The development of the child's motor control (exerc. 1, 2, 7, 8, 9).

3. The development of economy of physical and mental energy (exerc. 1, 2, 4, 5, 6, 7, 8, 9, 10, 11).

4. The development of good social relations between child and child, and child and teacher (exerc. 3, 4, 9, 13).

5. The development of self-discipline and concentration.

6. The stimulating of the child's self-confidence (exerc. 3, 6, 7, 8, 9, 10, 11, 13).

7. The encouragement of spontaneous self-expression and of the expression of unconscious and subconscious phantasies (exerc. 6, 7, 8, 9, 10, 11).

8. The encouragement of the perception of beauty wherever it is found.

9. The inculcation of an appreciation of art.

10. The balancing of an overemphasis of skills as such.

11. The helping of the children to acquire the aesthetic foundation for the expression of music and dance before learning the techniques.

12. The discovery of hidden talents.

13. The creation of a basis for later music or dance instruction.

In conclusion it should be understood that, although the teacher of rhythmical education has a clearly thought out procedure to effect certain objectives, she avoids making this apparent to the child. The basis of the method is to evoke the child's spontaneous emotional response to certain specific manifesta-

tions of art through sound and movement.—B.K.S.

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See: DANCE, MUSIC.

RORSCHACH. The Rorschach test is the name applied to the series of ten ink-blot figures devised by Hermann Rorschach, Swiss psychiatrist, as a personality-investigating instrument. As the title, — **PSYCHODIAGNOSTIK**, — of his monograph (published 1921) indicates, Rorschach was interested in a tool that would serve the psychiatrist as a practical aid in diagnosis. Research and discussion by his followers have shown it to have important implications for the psychology of personality more generally.

The rationale behind the Rorschach test consists of the effort to combine experimental control with freedom of the individual. In this way it meets the criticism of "Gestalt" against laboratory methods as so restricting the personality as to give results which are not representative. Rorschach's solution consisted in his providing (a) figures which are always the same (constancy

of stimulus); which (b) are always presented in the same order; while (c) the same relative position of Examiner and Subject is always maintained. This latter, according to the orthodox Rorschach technique, requires the Subject to sit in front of, and with his back to, the Examiner. While this is unquestionably a carry-over from Rorschach's own experience as psychoanalyst, its effect is to make for the Subject's feeling of freedom. (d) Instructions to the Subject are always to be the same. So far the first three of these conditions have been maintained by most Examiners. There has been some departure in respect to C and D.

In essence the test is simply an association experiment differing from others of this kind in using an ink-blot stimulus. A few scholars, however, performed ink-blot free association experiments before Rorschach. Most of these satisfied themselves with studying content, while a smaller number were concerned with problems of perception. Rorschach made the great advance in that (a) he recognized regularly occurring variables entering into the responses, variables independent of the content; (b) he systematically studied these variables in different clinical groups, patterning out the regularities in each. He discovered that, (c) quantities of his variables differed from group to group. That is, the response patterns differed. He thus had a personality differentiating instrument.

The variables as Rorschach observed them refer, first, to the material selected by the Subject. This may be the whole ink-blot, a major detail in it, a rare detail or a white space. The relative proportion of these is the *ERFASSUNGSTYPUS*. The order in which patient selects whole, part, or small part, in the ten figures is the *SUKZESIONSTYPUS*. Second, there are determinants of the responses. These may be form alone which in turn may be good or poor form (with the "healthy average" as the frame of reference for what is good or poor); color alone, or color and form with one or the other predominant; the shading nuances; the sense of movement in the figure. The third is the associational content itself. In addition, Rorschach recognizes what he has called the "oligophrenic detail", later interpreted

more correctly as an "anxiety" percept. His shading response does not appear in the *PSYCHODIAGNOSTIK* but he recognized it since he does discuss it in a posthumous paper published by Oberholzer. The same is true also of his *Vulgaer*, (popular response). The diametric opposite of the "Popular" is the "original" presumed to occur once in one hundred times (discarded by the present writer as having insufficient quantitative basis, and entirely indefinite as a concept). Rorschach, too, was conscious of the varying ability, among individuals, to organize portions of the blots meaningfully (his *ASSOZIATIONS-BETRIEB*; this writer's "organization" response). He formally recognized this ability only in the whole response. But this grasp of the fact that it occurred in other than wholes is seen in his calling some responses to Figure III "whole", even though the red portions were not part of the percept. Among other of Rorschach's variables should be mentioned the whole response suggested only by a part or a minor part (*DW*, *DrW*).

The statement of the quantitative occurrence, in any one protocol, of the several Rorschach factors is the "psychogram", from which the structure of the personality is deduced. Rorschach used really only a single formula in his psychogram, the balance of movement responses against color, his all-important *ERLEBNISTYPUS*. He also utilized three percentage formulations. A very large number of new symbols has been introduced by Dr. Bruno Klopfer, as representing psychologic events projected through the Rorschach test. Thus Rorschach's two symbols for parts of the blots (detail) have become six; the six symbols for movement, color, form, have become twenty-three. The net effect is to have a Klopfer summary of a Rorschach response record take on contours quite different from that which this same material would have, following the method used by Rorschach and his followers.

The matter of interpretation would require much more space than here permitted. Two broad principles operate. First, as in any personality, no trait is found meaningful in and of itself. It has character value in relation to what is known concerning the entire individual. In the Rorschach test, each

variable can only be interpreted in relation to the rest of the personality structure. An excess interest in the unusual detail may, for example, be the hypersensitivity of the schizophrenic or the extreme caution of the compulsive neurotic. Secondly, the several variables have an inter-acting influence which differs from one personality group to another. The dynamics in a manic-depressive-depressed personality, for example, bring it about that both good form and the easiest response (animal percept) increase; while in the feeble-minded individual, the easiest response (animal percept) increases and good form decreases; on the contrary, the healthy superior adult has a comparatively small percentage of animal percepts (he is individualized in his interpretations); while his good forms go up in quantity (he remains accurate). To the extent that Rorschach's thinking and his experimental findings are valid, his test becomes one which cuts across, and gives a unitary view of, all the personality stresses operating on one another, in any individual, as they produce the entire configuration. Similarly the Rorschach factors can be seen having their mutual influence on one another, issuing in the Rorschach psychogram or Gestalt. In this way the theoretical implications for personality growing out of the Rorschach experiment are fully in accord with Kurt Lewin's field-force thinking. In fact it is a demonstration, independently arrived at, of the Lewinian viewpoint. In experimental psychology, it is Gestalt theory, too, which offers the soundest support to the Rorschach procedures.

A close correspondence can be found also between the Rorschach implications and the thinking of Hughlings Jackson on the one hand and of Freud on the other. That is, the language of the test can be translated into the

personality concepts of these two great thinkers,—one based on neurological findings, the other on a purely psychological research. But one can possibly best characterize the Rorschach test by thinking of it as a prism through which the whole personality is broken up into the component rays. The several colors can thus be separately inspected while the ray retains its unchanged integrity.

With reference to Rorschach investigation in children: only a few papers have been published. No systematic study has so far appeared, validated by clinical material, group for group. Here is an important area of personality still requiring exploration by means of the test. It is only one among several.

—S.J.B.

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See: PROJECTIVE METHODS, PROJECTIVE TECHNIQUES.

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SADISM. The perversion known as sadism derives its name from the French author, Donatien Alphonse Francois de Sade. The Marquis de Sade (1740-1814) described examples of it very vividly. Originally it meant a sexual perversion in which gratification is obtained by torturing the beloved. Sometimes this is a prelude to normal sex relations. Sometimes it takes the place of them. The meaning of the term has gradually been extended to cover love of cruelty, enjoyment of the sight or sound of another's suffering, and also the habitual practise of cruelty, whether directly related to sex or not.

Many theories have been proposed to explain sadism. Freud suggested several possible explanations, each of which seemed to account for some but not all cases. Unable to find a completely satisfactory explanation within the framework of his original psychological theory, Freud ultimately postulated a special death instinct, as the only satisfactory way to account for sadism, masochism, suicide, and irrational destructiveness generally.

Most psychologists, however, have felt that the postulation of a special instinct does not really constitute an explanation. Many have found some of Freud's earlier suggestions much more plausible.

Freud at first suggested that the roots of sadism are to be found in the aggressiveness which is a normal component of the sexuality of most men. He finds the biological significance of this aggressiveness in the necessity of overcoming the resistance of the sexual object. In fact, Freud showed that aggression is the primordial reaction, whenever any pleasure-seeking or pain-avoiding activity is blocked, and that this aggression is normally directed against those objects and persons re-

garded as the source of the frustration. Attacking a loved object from whom the individual had expected a gratification which is denied is therefore perfectly analogous to attacking any other frustrating person or thing. If frustration occurs too frequently, the individual may soon learn to anticipate it and to feel aggressive even before he is frustrated. In this way, the impulse toward cruelty may become associated with loved objects in general.

Freud also pointed out that aggression may be inhibited because of anxiety, and that it is then likely to be displayed to some other object. For example, a woman may at first repress her anger against her husband, and the repressed aggressive tendencies may later find a disguised expression in severity toward her child.

Dollard and his colleagues at Yale have published the most comprehensive study of frustration and aggression, showing how these concepts account for a wide variety of otherwise unintelligible human behavior.

Among children, minor instances of cruelty are very common. Most cases can be traced directly to frustration of some sort.

A punished child, fearing to attack the powerful adult who punished him, is very likely to work off his pent-up aggression against some younger or weaker child conveniently at hand. Parents and teachers should be careful not to brand as sadistic these occasional outbursts of aggressiveness. Cruelty can be minimized, sometimes by pointing out to the child that it is cowardly to attack someone who is weaker, sometimes by providing a socially acceptable substitute in the form of rough but carefully supervised sports, or if necessary by vigorous interference in defense of the younger and more

helpless child (though this is usually inadvisable, because it intensifies the hatred of the attacker and lessens the self-confidence of the attacked). Increasingly, however, progressive educators are encouraging children to settle their minor differences without too much interference. There is a tendency to permit some expression of aggression soon after its arousal, rather than risk the injurious consequences of too much repression. The wise educator will of course interfere whenever there is any serious risk of real injury to either child, but he will avoid arousing too much guilt feeling in the aggressive child, and he will be very careful to avoid branding even the habitual bully as sadistic. Instead, he will study the bully to determine the nature and source of his frustration and will strive to eliminate these, and also to provide socially approved outlets for the unavoidable minimum of aggression.

Supplementing his basic contribution concerning the part played by aggressiveness in the development of sadism, Freud contributed several suggestions concerning early childhood experiences which may predispose the child in this direction. For example, if young children witness the sexual act between adults, they commonly misinterpret it as maltreatment of the woman by the man. Freud found in his psychoanalyses considerable evidence that such an early childhood impression may have much to do with the later development of sadistic tendencies. Many other persons report that they first experienced genital excitement when fighting and wrestling with playmates, possibly because of the contact with the opponent's skin and possibly because of the muscular activity involved. In later years, these persons desired muscular contests with loved objects. These and many other chance associations of early childhood help to account for various instances of sadism in the restricted sexual meaning.

For educators the problem of sadism derives its chief importance from the fact that some sadists (particularly those in whom the perversion is partly repressed so that it can find expression only in some disguised form) are attracted into such professions as school teacher, principal, officer or employee of an institution for juveniles,

especially a reform school, etc., for the sole reason that such a position gives them power over young and relatively helpless people. This condition is less prevalent today than it was a generation or two ago, when corporal punishment was more frequent; but even in institutions where this type of punishment is not permitted at all, there are occasionally employees who derive a perverse pleasure from torturing children in subtler, more devious ways. It becomes the duty of all executives, especially superintendents, to be alert to this possibility and to eliminate any employee who shows sadistic tendencies.

Vocational advisers also should take account of any sadistic trends in their clients and advise them to enter occupations in which they will be working with things rather than people. If this suggestion is not accepted, then the adviser should try to have them work with adults rather than children.

—M.F.M.

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See: DOMINANCE, MASOCHISM, SPANKING.

SCHIZOPHRENIA. In 1896 Kraepelin defined dementia praecox as a mental disease which arises during early adolescence and leads by way of gradual deterioration to a final state of dementia. It has been pointed out by several authors that contrary to Kraepelin's conception the illness in some cases develops outside the period of adolescence and in some others it does not terminate in dementia. In 1911 Bleuler proposed the term "schizo-

phrenia" for this type of disorder, indicating by it that the condition involves a "splitting of the personality" as the basic phenomenon. Bleuler's conception has no implication with regard to the age of the onset of the illness. Furthermore Bleuler states that in spite of a definite tendency of the disease to proceed toward deterioration it may clear up or come to a standstill at any stage. In 1906 Adolf Meyer formulated his concept of schizophrenia (later called "paragesia") not as a definite disease entity but as a reaction type, a form of maladjustment which is the cumulative result of faulty habits.

Schizophrenia frequently develops in persons who before the onset of illness had a so-called "shut-in" personality characterized by seclusiveness, shyness and addiction to the habit of daydreaming. Oddness, limitation of interests, over-conscientiousness, over-dependency and suspiciousness are also often found among the psychological traits of these persons. The disorder may develop suddenly, but in the great majority of cases it develops very insidiously, usually over a period of many years. Not infrequently the investigation of the patient's pre-psychotic history reveals the occurrence of a distinct change of personality during adolescence, often followed by a slow and gradual loss of interest.

The first distinctly psychotic symptoms may occur without any apparent precipitating causes, but usually such factors are present. These may be represented by an accident or a physical illness, but more frequently it is some psychologically trying situation.

One distinguishes four sub-types of schizophrenia: hebephrenic, catatonic, paranoid and simple. The symptomatology varies according to the sub-type. There are, however, a few basic symptoms which occur to varying extents in all forms of schizophrenia. Change in affectivity is one of the most common symptoms. This manifests itself on the one hand in a decrease of emotional response to environmental situations, in an emotional blunting, shallowness, apathy, and on the other hand the affective changes manifest themselves in an inappropriateness of the emotional response. By inappropriateness of emotional reaction one means incongruity between the objective situation and the

emotion elicited by it. Thus, for instance, a schizophrenic patient may be amused by a situation which normally should produce concern and worry. The overt activity of schizophrenic patients usually shows a decrease in amount except during periods of excitement. More characteristic, however, are the bizarreness and seclusiveness expressed in overt behavior.

Thinking and speech are most commonly disturbed. The disturbance may consist only in some tendency to peripheral associations, some incoherence and irrelevance. Frequently the disturbance is more severe. Some of the outstanding features of the schizophrenic thought-disturbance are an excessive use of symbols of a highly personal nature, an impaired distinction between metaphoric and literal meanings, assignment of special meanings to banal occurrences and bizarre connections of apparently unrelated ideas.

Autistic productions, delusions, hallucinations, experience of strange changes in the body are frequent. The patient may invent words (neologisms) to express his strange ideas. Self-awareness is often disturbed. The patient may ascribe his own mental and physical activities to influences originating outside of himself, or, on the contrary, he experiences himself as the originator of happenings in the outside world which actually occur quite independently of the patient's will. Orientation and memory are usually well preserved, and the general intelligence during the early part of the illness may be fairly intact. The patient's judgment is usually grossly impaired, and he seldom has even moderate insight into his illness.

The course of the illness is variable. The patient may recover spontaneously, or he may improve sufficiently to make a fair social adjustment in spite of the fact that the illness has left a definite "scar". The marked tendency of the illness toward deterioration is, however, undeniable. The deterioration usually takes one of the two following forms; extreme fragmentation of the personality; or, a serious impoverishment that produces a flat "burned-out" person, leading apparently not much more than a "vegetative" existence.

The outstanding features of the four sub-types are briefly as follows:

In the hebephrenic type inappropriate-ness of emotional reaction, a certain amount of "silliness" and bizarreness of speech and behavior are the outstanding features. Mannerisms, use of neologisms, and bizarre somatic complaints are frequent. The delusions are usually fantastic and changeable. The prognosis is definitely unfavorable, and the usual outcome is deterioration.

In the catatonic type the onset of illness is frequently abrupt. Phases of excitement and of stupor, or both, are the most characteristic features. The stuporous catatonic patient is negativistic, refuses to speak and eat; he may assume odd postures and maintain them for an unusually long time; he may exhibit the phenomenon of "flaxy rigidity". His consciousness is apparently clouded. The patient is frequently incontinent of urine and feces. Echopraxia and echolalia occur occasionally. During periods of excitement the patient exhibits an impulsive, assaultive, destructive behavior, and he may attempt to commit suicidal, homicidal, or self-mutilating acts. In his delusions the catatonic patient may express the idea that he has died and was reborn, or that cosmic catastrophe is taking place. The delusions of the catatonics are commonly concerned with some struggle between the bad and the good. The final outcome of the illness tends somewhat to the extremes. On the one hand, the best recoveries among all schizophrenic types occur among catatonics, but it is also true that a catatonic patient may deteriorate and show the worst terminal picture.

The paranoid type is characterized by a delusional development. The content of delusions is most frequently of the persecutory and grandiose type, with a tendency toward systematization. Usually this type does not show such extreme disintegration and regression as the hebephrenic or the catatonic sub-types. The prognosis is fair for social recovery. The patient may reach a fairly satisfactory adjustment, although usually ideas of reference, evasiveness and suspiciousness remain.

The simple schizophrenic is characterized by lack of interest and ambition, blunting of emotion, but the more dramatic symptoms of schizophrenia are largely absent. This type is often found

among vagrants and hoboes. Simple schizophrenics are ineffectual, and are harmless persons who may not require hospitalization.

The etiology of schizophrenia is unknown. All we know in regard to this point to date are more or less plausible suggestions on which general agreement is lacking. The knowledge of the pathological physiology of schizophrenia is also still rather obscure. Kraepelin thought that in schizophrenia some disturbance of metabolism which causes a chronic process of intoxication may be present. Recently Jahn claimed that there is considerable physiological evidence for assuming an intoxication by a histamine-like substance in schizophrenia. Changes of the autonomic, circulatory, glandular, metabolic, endocrine and other functions have been reported, but often not confirmed by other investigators. Infection, particularly tuberculosis, has occasionally been claimed to be a factor in the etiology of schizophrenia. Gjessing recently reported changes of the protein metabolism in some cases of catatonia with a phasic course. This type is said to respond well therapeutically to thyroid medication. Hoskins, on the basis of the work done by him and his associates, summarizes the available evidence for a faulty oxygen metabolism. Agyal, Freeman and Hoskins point out the frequency of a rather generalized reduction of physiological responsiveness among schizophrenics which parallels the impaired responsiveness to environmental stimuli on the psychological level.

The current general treatment of schizophrenia consists of a combination of good medical care, physiotherapy, occupational therapy and psychotherapy, aiming at the re-education and readjustment of habits. In recent years various forms of shock therapy have come into use. Sakel originated the insulin treatment. This consists in the production of hypoglycemia by successive injections of increasing amounts of insulin. The hypoglycemia is then gradually allowed to reach the stage where a coma is produced. The coma, as interrupted after a short period of time by the oral or intravenous administration of glucose. Paranoid schizophrenics are said to respond most favorably to this treatment. The con-

vulsive treatment with metrazol was originated by von Meduna. A sufficient amount of metrazol is injected to produce an epileptiform seizure. The procedure is repeated, usually 10 to 15 times. The catatonic schizophrenics are supposed to react best therapeutically to this form of treatment. The electroshock treatment consists in the production of epileptiform seizures by passing an electric current through the patient's head. There are not yet sufficient data available to allow comparison between this form of convulsive therapy and that which is produced by the injection of metrazol.

A brief statement on schizophrenia occurring in childhood is in place. Schizophrenia may develop very early in childhood, although its incidence is very small. According to the highest estimates, not more than three to four percent of all schizophrenics develop the disorder before the period of puberty. With regard to the symptomatology, Bradley states: "Seclusiveness appeared to be the most important symptom and in addition to it bizarre behavior, regressive nature of personal interests and sensitivity appeared most fundamental." The onset may be sudden and dramatic, usually with excitement and bizarre behavior, or insidious with a gradual loss of interest. The differential diagnosis from mental deficiency, non-schizophrenic psychoses, post-encephalitic and other severe behavior disorders, organic and toxic conditions and also from certain forms of normal childhood behavior requires thorough consideration. The prognosis of schizophrenia in children is even graver than in adults. The various forms of shock treatments have been found to be of little use in the case of children.

—A.A.

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SELF-RELIANCE. The achievement of self-reliance is an important aspect of "growing up". The process begins with the complete helplessness and dependence of babyhood and normally results in the relative independence and self-reliance which is expected to characterize the adult. But individuals achieve that transformation with varying degrees of success, depending, apparently to a considerable degree, upon home experiences and the sort of training they receive.

Since home training appears to be so important in the development of self-reliance, the question of the generality or specificity of the trait takes on real practical significance. If self-reliance is a single, general trait, to train a child to be self-reliant in certain typical situations would tend to make him self-reliant in all kinds of situations. If on the other hand, self-reliant behavior is specific to every situation, to train a child to be self-reliant in feeding himself, for example, would have no effect upon his behavior in a somewhat different situation, such as getting dressed in the morning.

This question has scarcely been raised at all in the past. Writers apparently have assumed that self-reliance is a single, general character trait. Recent studies, however, suggest that this is not the case. Analyses were made of questionnaire material describing self-reliant and non-self-reliant behavior in adolescents. The results indicated that there are at least four or five and possibly more, distinct and relatively independent kinds of self-reliance, each functioning in a particular area of human activity. "Self-reliance," then, does not appear to be specific to each particular activity. Instead there are perhaps as many "traits" of self-reliance as there are distinct types of everyday life situations or distinct areas of activity in which the young person might either depend upon himself or be irresponsible and dependent upon others in meeting the situation.

In terms of the results of the analyses, a few of these general activity areas and the self-reliant behavior in relation to each have been described. One of these is the area of personal problems and difficulties.

Life is a series of situations in which personal problems must be solved, difficulties and dilemmas faced and resolved, decisions made. If a young person manages as a rule to get himself out of difficult situations; if he habitually faces alone his personal problems such as choosing an article of clothing, raising money to pay for it, or deciding whether to go to college; if he usually seems to know what to do in emergencies; if he can usually make up his mind without difficulty; and if he is willing to take the consequences of his own decisions, he is surely a self-reliant individual. He has learned practice to "stand on his own feet" and to act on his own responsibility in regard to personal problems and difficulties.

Another activity area in which self-reliant behavior might be seen in some youngsters is that of the ordinary daily work and the use of time. If a youngster has so many things which he likes to do that he never has time to feel bored when thrown upon his own resources, if he enjoys working out new ways of doing his daily tasks, if he is conscientious in the performance of his share of the work and even is likely to go ahead with additional work on his own responsibility, and if he is never at a loss to know what to do for his own entertainment, he may be rightly said to be self-reliant. In this case, however, his self-reliance involves industriousness and a sort of resourcefulness in work. It is self-reliance in work and the use of time.

A third group of situations in which a rather distinct variety of self-reliance might manifest itself consists of those in which person-to-person relationships are especially involved. The child who has learned to assume the responsibility of getting himself ready and off to school on time, who dislikes to be late for any appointment and has formed the habit of seeing to it that he keeps his appointments and promises, and who is able to feel confident at examination time because he has on his own responsibility kept up in his stud-

ies, will also rank high in "self-reliance". He is self-reliant in the sense of meeting his obligations to others—in "keeping up his end" generally in his relationships with them. He has learned through experience that irresponsible behavior in such matters usually brings unpleasant consequences. He has also learned that by keeping his word and remembering his obligations, his personal dealings with others consistently bring satisfaction to himself. This variety of self-reliance might be called "personal responsibility."

Young folks show varying degrees of self-reliance in still another type of situation—the group situation. When small groups come together for discussions or for group action of any sort, certain individuals assume leadership, others make contributions to the group thinking and action, and still others are merely passive followers or non-participants. At least part of this variability in behavior is due to individual differences in self-reliance—a resourcefulness in group situations.

The young person who is well developed in this trait is usually the one who is asked to help plan special events at school. He is usually ready with ideas and suggestions on such occasions, and those suggestions are usually practical and usable for the occasion. In class meetings and committee meetings his ideas are usually listened to. Not only is he likely to be asked to help with plans but he is often given the job of leading in the execution of group plans.

This sort of self-reliance, then, especially involves resourcefulness and a sort of aggressiveness together with dependability and willingness to work in group situations.

Each of these varieties of self-reliance is relatively independent of the others. The development of each in a given individual depends upon experience in a particular type of life situation. The implications of this child training are clear. If a child is to become self-reliant and independent in meeting and solving his own personal problems, he must be given opportunities for practice and responsibility appropriate to his age and ability, and always with guidance, in actually making his own decisions. If he is to become self-reliant and resourceful in work and in use of his

time, he must learn by actual experience, among other things, that to do the little tasks assigned to him conscientiously and with dispatch means more time for the activities he enjoys. If he is to learn to rely upon himself in fulfilling his obligations, doing his part and in general maintaining satisfactory personal relations with others, again to an appropriate degree, he as a child must be put upon his own responsibility in fulfilling his part of the bargain with his brothers and sisters, and others about him. And finally, if he is to develop self-reliance and resourcefulness in group situations, he must have actual experience as a child in participating in group discussions and group activities. He must be given ample opportunity and encouragement to express his ideas and at the time be made to feel that those ideas are given weight and consideration. The family meal provides a very favorable natural setting for experience and development of this sort.

There are undoubtedly other varieties of self-reliance than those here described. This suggests even more strongly the importance of taking advantage of as wide as possible a variety of situations in which the child gets actual practice in "standing on his own feet".

The democratic home atmosphere provides greatest opportunity for the development of the various sorts of self-reliance. Studies show that adolescent children of parents who believe in strict and autocratic parental control are, on the average, less self-reliant than children of parents who do not hold such beliefs. Research results also indicate that self-reliance in all its aspects is best developed in a family atmosphere of mutual confidence, affection and companionability and where many group activities both in and outside the home are planned jointly and enjoyed together.—L.H.S.

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ulation. The penis of the baby boy and the clitoris of the baby girl react to actual stimulation within the first few days of birth. We may see the boy's penis erect even before he leaves the hospital at the age of less than two weeks.

By the time the youngsters are three years of age, they begin to ask questions involving their origin. If these are answered frankly, and without prudishness or salacious tittering by the adults who are present at the moment, the child flits on to other topics of conversation.

Children normally are scientific. They wish facts about everything that happens to challenge their attention at the moment. And they do not lie awake at night indulging in imaginative reveling about the sexual facts that an intelligent parent gives them.

We adults have been the prudes throughout the years and have foisted our biased attitudes upon youngsters whose coldly analytical queries had no ulterior motives behind them except a thirst for knowledge.

In a long and extensive practice dealing with children, I have never seen ONE case where a child was harmed by too many facts about sex, or by receiving them too early. But I have encountered hundreds of cases where lack of scientific facts has stimulated the child to experiment with the bodies of members of the opposite sex, and has possibly led to pregnancy, venereal infection, and many psychological complexes.

In case of doubt, therefore, give the youngster too much, instead of too little truth. He will absorb only what his limited mental age or interest at the moment will permit. The remainder will not disturb him.

Because too many parents lack a precise formula for discussing such intimate subjects, they stumble around and become embarrassed. The child instantly detects their mental confusion and only then develops a salacious interest. If we answered his question in a matter-of-fact manner, he would not react differently to sex facts than to facts about the sun or moon.

"Where did I come from?" inquires the 3-year-old, as he reaches that age at which children become aware of cause and effect or the fact that there are origins for everything.

SEX EDUCATION. From early infancy, children are sensitive to sexual stim-

"You came out of Mamma's abdomen," you can truthfully state, as you pat the region above the pubic bones. If there is a pregnant woman in the neighborhood, use her condition as a visible example.

"But how did I get in there?" the child may now ask.

"God put you there. When little girls are born, God puts some tiny eggs inside them. After the little girls grow big and get married, then one of these eggs may develop into a baby."

"How does a baby get out of its mamma?" is probably the next query, though the child may stop at any point in the dialogue if you have satisfied his original question. Don't urge him onward into an elaborate discussion of the following points if he doesn't seem hungry for such facts at the moment. He will normally return to the dialogue a month or a year or so later, at which time continue with the additional items which then stimulate his curiosity.

"The doctor helps get the baby out," you say—

That answer will usually suffice, at least for the moment. If it doesn't, then the child may further inquire:

"But how does the doctor get the baby out?"

"Sometimes he may cut a long slit (Caesarian operation). Then he sews the skin together again, and it grows fast. It's much like the way the Little Red Hen got out of the fox's sack. Don't you remember?" This "reversible why" technique may detour his next query.

"Did I come out that way?" he may persist, however, to which inquiry you should answer truthfully, but casually.

"No, you came out of the opening between Mamma's thighs. Most babies are born that way."

A number of questions may lead from this statement, though many children don't pursue the subject further. They may, however, inquire if it hurts the mother. She can then describe the medicine and anesthetic she probably received to dull or obliterate the pain.

Or the child may express wonder as to how a big baby can get out of such a small opening. This can be explained to his satisfaction by telling him the baby is very small, and the opening stretches, like rubber. To show you

the casual but analytical way a child looks on such topics, I wish to quote the following dialogue between a youngster, aged 5 years and 2 months, with his mother who is the wife of one of our great European psychologists. The dialogue took place in Germany in 1925. The boy is designated by "T", and the mother by "M".

*T: "Why did you stay in Berlin and not go back to that school?"

M: "The war came, so I couldn't go back again."

T: "Why couldn't you go back?"

M: "The railways were being used by the soldiers, so I couldn't get a train."

T: "Was there a lot to eat then?"

M: "No, there wasn't much to eat."

T: "But Papa had enough to eat, didn't he?"

M: "Yes, Papa was a soldier, and the soldiers had enough to eat."

T: "Why did the soldiers have enough to eat?"

M: "If the soldiers hadn't had enough to eat, they couldn't have fought."

T: "And the other people didn't have enough to eat?"

M: "No, they were all hungry, even the little children."

T: "Mama, the little babies who hadn't been born yet had the best of it, didn't they? They were lying nice and warm inside their mamas."

M: "Yes."

T: "Mama, when the babies crawl out, have they anything on?"

M: "No, they are naked."

T: "Aren't they cold when they're naked?"

M: "No, because they're dressed immediately."

T: "Why don't the children come out together?"

M: "What do you mean?"

T: "I mean, why didn't Baby and I come together?"

M: "Babies do sometimes. Then we call them twins."

T: "Then they would have to be smaller, or else they couldn't come out easily."

COMMON SENSE IN SEX EDUCATION. Our typical adult prudery is demonstrated even in our evasiveness about designating the two toilet functions of urination and defecation. Those polysyllables are too vague for children, so we try to use simpler terms. But what a variety we employ! The

kindergarten and first grade teachers can tell you that many children don't even understand each other. Some say "wee wee" while others say "toy toy", etc. Perhaps it would be well to standardize our thinking and vocabulary in this regard.

Since there seems to be a widespread tendency to employ words that demonstrate onomatopoeia, which means the formation of words in imitation of natural sounds, such as hiss, buzz, dong, etc., let's do likewise regarding bathroom vocabulary.

Suppose we employ the word "tinkle" as a synonym for our medical verb "urinate", and "grunt" for the verb "defecate". By so doing, we can simplify and make more uniform the vocabulary of our children, thus freeing them from possible laughter or ridicule when they use language that is at variance with the toilet terminology of some of their classmates.

Children may ultimately ask if the baby is born by the same opening in the mother through which she empties the bowel. The name of this bowel opening is simple, so we might as well include it in our children's vocabulary. It is "anus", a 2-syllable word with the accent on the first syllable, which has the long "a" sound.

Scientific precision, and simple but effective vocabulary, will help banish the confusion that often exists between parent and child when trying to discuss these common problems in anatomy or physiology.

You might as well inform the questioning youngster that girls and women have three separate openings between their thighs, which are about an inch or so apart and in a line. Reading from the back to the front, those openings are called "anus", "vagina" and "urethra". Many adult mothers reading this bulletin today haven't realized that the "urethra", which is the urinary opening, is a separate outlet. Hardly a week passes that I don't encounter women who think that the act of urinating will serve as a douche and thus flush out the vagina or the spermatic fluids therein.

Tell the children, when they are old enough to ask about such things and when they open the conversation on such topics, that the urine comes from the urethra in front, which is a small

opening. The baby is born by way of the vagina, unless it is a Caesarian case, while the bowel movement or "stool" empties from the anus.

Boys and men have only two such openings: namely, the urethra, which is the canal in the center of the penis, and the anus. The scrotum is the technical name of the sack or bag of skin that hold the two testicles.

ADOLESCENT SEX INFORMATION. When boys and girls enter the teens, hair begins to grow in the pubic region and under their arms. The boy's voice becomes masculine, meaning deeper and fuller. The girl's breasts likewise enlarge, and she takes on the curves that are typical of adult womanhood.

But other internal changes are occurring. At occasional intervals, such as each week or two, the boy during sleep may have his penis grow erect and spontaneously ejaculate a little sex fluid. The latter may not be more than a teaspoonful, and is of the consistency and color of the white of an egg. The boy may awaken in the morning with this wet spot on his pajamas. Such an occurrence is called a "nocturnal omission" or "wet dream". The fluid is a combination of the slightly milky secretion of the prostate gland, plus some spermatozoa cells from the testicles. Unless boys are informed of this condition, they may become terrified about venereal infection or fears that they are "losing their manhood". Quacks have long preyed upon the credulity and terror of such unenlightened youth. It is criminal to permit teen age boys to be in ignorance of such simple facts about adolescence. Such emissions are normal.

Another crime against our youth is the fact that many girls are not informed in advance about the physiology of menstruation. Every week I receive letters from girls testifying to the fact that they have been terrified lest they were bleeding to death from some internal hemorrhage, for they have not been told about the menses.

Tell your adolescent youth that at the top of the vagina is an organ shaped like a small inverted pear, and of about the same size. It is popularly called the "womb", but medically is named "uterus". It is a thick walled organ. About once per month, an "egg" or "ovum" ruptures free from one or

Strain, Mrs. Frances B.: *New Patterns in Sex Teaching*; the Normal Sex Interests of Children and Their Guidance from Infancy to Adolescence. Appleton-Century, 1934.

SIBLING RIVALRY. Jealousy among siblings is natural. It is more common in first-born than in later-born children since first-born children, during the period when they are only children, become accustomed to the undivided attention of their parents. It is more frequent in small than in large families where the children quickly learn to share the parental interest. The age difference between siblings is of considerable importance. Jealousy is more likely to be severe when the age difference between the children is from one and one-half to 3 years, than when this is greater or less although there are many exceptions. When the older child is less than 18 months at the time of birth of a younger sibling, he has not, in most instances, become fully aware of the parental attention and affection. When the age difference is greater than 3 years the older child ordinarily feels secure in his parent's affection and is beginning to lose some of his dependence on his parents.

Jealousy is apt to be more severe among siblings of the same sex than in brother-sister combinations where there is less likely to be a clash of interests. It is seen where parents show favoritism or animosity toward a child and where they make invidious comparisons between the children.

The severity of the rivalry reaction depends, to a large extent, on the degree to which the child is dependent on the mother. Hence, jealousy is especially well-marked in the over-protected child. It is, however, seen whenever the child has been badly brought up and, in such cases, it serves as one of many outlets for the child's emotional discomfort.

The behavior of the jealous older child is characterized (1) by hostility toward the younger child, (2) by a desire to relive the pleasures and advantages enjoyed by the younger child, and (3) by excessive demands for parental attention. Hostility may be overt and manifest itself by attacks on the younger child, or it may be concealed.

The child, made to realize the undesirability of his hostility, may develop guilt feelings. Excessive fearfulness sometimes results from the child's appreciation of his own hostile impulses toward a sibling.

Of considerable interest are the infantile responses frequently seen in older children following the birth of a sibling. The older child will often wet and soil himself, though previously fully trained and he frequently chooses the parental lap for this purpose. There are demands to be diapered, to be fed from the breast or bottle, etc.

Prophylaxis: Since sibling rivalry is rarely troublesome in a well brought-up child, it is apparent that the most important factor in prevention is proper child rearing. Parents should be taught the simple principles on which child development are based. They should be instructed in the needs of the child to develop at his own rate and they should understand the harmful effects of trying to accelerate or retard developmental tempo. They should be taught that the child has needs, mental, motor and emotional which must be gratified. They should know that the child requires guidance and discipline, and they should understand something about individual variability. Efforts should be made to relieve parental tension and anxiety about the child and a natural, affectionate attitude should be encouraged.

Certain preparatory suggestions before the arrival of another infant may be helpful. The older child should be informed of the expected arrival of the newcomer and should know that the mother is to go to a hospital for this purpose. Emphasis should be placed on his own maturity and on the helplessness of the baby. If he is to be moved out of his room or his crib to make way for the new baby, the change should be made several weeks before the expected birth.

Management: Many parents fail to understand that jealousy toward a new sibling is natural. In their well-intentioned desire to build for family unity, they worry and exert themselves unduly about a situation which is unimportant and which will right itself in time. In such instances an explanation of the mechanics involved and assurances of its normality are ordinarily

sufficient to allay parental agitation.

Following the birth of a new sibling the older child needs reassurance of parental affection and he requires attention and privileges on a level corresponding to his developmental status. The parents should see to it that he receives a due share of their interest and that he is not forgotten in the excitement incident to the arrival of a new baby.

Where jealousy is intense it may be advisable for the mother to avoid nursing or otherwise ministering to the baby in the older child's presence; but he should not feel that he is being excluded. The father can help greatly by assuming a more active role in the child's life, thereby giving the child additional affection and attention on a more mature level.—R.M.B., H.B.

Levy, D. M.: *Studies in Sibling Rivalry*, Research Monog., No. 2, Am. Orthopsychiat. Assoc. 1937.

SIGHT SAVING CLASSES. Special classes are now being established in the public schools to conserve the vision of children who without proper safeguards might become blind and of those with vision so low as to require special materials. Children with visual acuity from 20/200 to 20/70 (estimated to number 50,000) are admitted to these classes of which there are now over 600 located in 209 cities in 28 states. Special materials include large-type books (24 point type) and typewriters, maps in bold outline without detail, pencils, pens, and crayons that produce broad lines. A specially trained teacher shortens the periods of eye work in the well lighted sight-saving classroom wherever possible by substituting eye-saving methods and materials, and allows the pupils to take their places in the regular classrooms only during periods when no close work is required.

—S.P.H.

Hataway, Winifred: "Helping America by Saving Sight in Childhood—Through Educational Service." Nat. Soc. for Prevention of Blindness. 1941.

SLEEP. Scientifically, sleep is a very mysterious phenomenon. We do not

precisely know what it is for or even what physiological mechanism it depends on. There are, of course, many theories, old and new, purporting to explain the phenomenon. They contend that sleep is caused by change in the distribution of blood (anemia or hyperemia of the brain), by periodic increase of fatigue-substances in the bloodstream, by special toxins generated by the organism itself (hypnotoxins), by neural dissociation, by the controlling activity of the sleep center (near the third ventricle), by an instinctive arrangement, by an escape mechanism permitting one to regress to the quasi-infantile mode of existence (psychoanalysis), etc. However, the very multiplicity of these discordant theories leaves no doubt that we still know very little about the fundamental nature of sleep, except that it constitutes, in A. Gesell's words, "a readjustment of the whole machinery of the organism . . . to protect the total and remote welfare of the organism."

The obvious truth is that all people require, and benefit from, sleep. In fact, the newborn infant sleeps most of the time and wakes up every few hours only for feeding and when uncomfortable or disturbed. Under normal conditions, the question as to the length of needed sleep does not arise until the second year, and even then it should not create much concern, provided we follow the simple rule to let the child sleep as much as he needs. But when the child is already walking and talking, day activities begin increasingly to acquire significance for him. The period of sleep becomes associated with night, while the day is transformed into the period of play and other activities. The meaning of 'night' is, however, by no means identical with that of the adults, in this case, particularly in the city. At first, there is hardly any distinction between day and night in the infant's behavior. Then the waking periods shift increasingly to days, while nights are occupied by sleep, occasionally interrupted by waking. By the age of two years, there should be normally no more than one awakening at night, on the average. By three, the child should sleep through the entire night, for 13-11 hours, approximately from 6 P. M. to 6 A. M. If the mode of family existence makes these hours uncomfortable, they

may be shifted, without harm, to 7 P. M. and 7 A. M. One or two hours nap in the midday is desirable (up to the age of 6), but not as necessary as is often imagined. Older children (8-13 years of age) will sleep less, 11-9 hours depending on age, and this period of rest should be gradually adjusted to that of the adult life.

It is essential to realize, however, that the period of sleep should be as regular as possible. No exceptions should be made as to the time of going to sleep; but all emotionalizing elements, such as threats, scolding, punishment, and scenes, should be completely left out. Any deviation from the routine, especially if frequent, is likely to interfere with the formation of wholesome habits, on the physiological and psychological level. Moreover, children learn early to avail themselves of such deviations, in order to get a little more attention and to use the freedom they secure in this manner from 'soft' parents for their own little purposes.

Nor should the mother, for the same reasons, be too willing to come to the infant's side whenever he manifests the wish. Naturally enough, the infant prefers the mother's presence or even a direct contact with her. The old-fashioned "rocking" was to him a symbol of such presence. But he will get used quickly enough to fall asleep when left alone and in darkness. This rule should be practised consistently, except when there is some special reason for breaking it, as in sickness; but, when the sickness is over and the child is well again, the old routine should be immediately re-established. The only modification of this practice may consist in quiet singing or a story free from exciting subject matter; and this, too, should be done in a regular fashion, as a pre-bedtime procedure.

The child or children over one year of age should sleep in a separate room, and after three or four years of age in a separate bed rather than crib—never with parents. This is necessary for many reasons: the routine of adult life cannot be reconciled with that of the child; the child should not be given an opportunity to observe his parents' intimacies which he is bound to misinterpret; he must be given a certain (increasing) amount of independence.

All sleep disturbances are symptoms

of sickness, physical or mental disturbance, or neurotic tendency; the latter is often caused by the excess of parental love (overprotection, pampering) or by lack of wisdom in training. All crying at night must be attributed to these causes, except of course during infancy, when crying caused by hunger or soiled diapers is perfectly normal.

A healthy child who is well taken care of sleeps soundly. Thumb-sucking (q. v.) during sleep should be disregarded till the age of 4 or 5; moderate sleep-talking is not a reason for serious worry. Consequently, when the child sleeps irregularly for no apparent reason, suffers from nightmares or enuresis (q. v.), a pediatrician should be consulted. But, of course, the best method is that of prevention.—R.B.W.

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Gesell, A., and Ilg, F. L.: *Infant and Child in the Culture of Today*. Harper & Bros., 1943. pp. 298-310.

Kleitman, N.: *Sleep and Wakefulness as Alternating Phases in the Cycle of Existence*. Chicago University Press, 1939.

SOCIAL ACCEPTABILITY. The craving for social approval is one of the strongest motives in child conduct. Social success depends to some extent on the stimulus value of the child's personality. Some children are immediately and completely acceptable to others. Some children are shy, timid, recessive. They remain on the side lines, unnoticed, unrecognized, and often unpopular. Antagonism, hyper-activity, show-off behavior, physical handicaps, and mental deficiency may cause rejection of the child by the group. Continued social disapproval or lack of proper recognition may cause a deep sense of inadequacy and unworthiness which in turn may lead to conflicts, chronic maladjustments, and nervous breakdowns in later life.

How much children accomplish and how well they adjust partly depends on what others think of them and on the opportunities for healthful expression which others provide for them. Special attitudes and opinions are controlled and molded by education. They involve

the appreciation of individual differences and a tolerant acceptance of unmodifiable conditions. The introvert may lead a perfectly normal and constructive life if he is allowed to find his niche in the group of which he is a member. His acceptance by the group is as important as is his personality trait in the training for effective and hygienic living. Even the moron may become a contented and acceptable citizen, if the group permits him to use his limited assets in the service of the common weal.

Social acceptability tests are used in schools to discover the rejected and unpopular child. Classes in human relations are held. Through informal discussions and debates concerning the value of friendships, emotions, self-discipline, customs, mental drives, and other practical problems children develop an awareness of their own position in relation to their social environment. They project themselves into situations portrayed by vivid accounts of actual events, they listen to the opinions of others and learn to respect them, they consciously and unconsciously examine their own lives and urges, they profit from guidance given by their teachers. Techniques have been developed to influence the social thinking of children along positive constructive lines. The undesirability of prejudice, bias, suspicion and intolerance is illustrated by actual experiences and happenings in, as well as outside, the classroom. The direct approach is also used by trained teachers to bring the child into active participation with the group on his own terms and by emphasis on his strong points and on personal self-esteem.

A gradual leveling of differences in attitude occurs in children for whom such training is available. Children with handicaps and problems become more acceptable to others. Their social effectiveness increases. Closer relations between children are formed. A sound basis for normal co-operation is fostered. A balanced group life is practiced.

—J.J.

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See: ACCEPTANCE, CLASSROOM GUIDANCE, REJECTION.

SOCIAL MATURITY. Maturity of social response refers to the appropriateness of a child's behavior to his age group. It is reflected in the child's interests, attitudes, degree of independence, and devotion to the group. E. A. Doll has done a considerable amount of work with the concept which is reflected in the development of the Vineland Social Maturity Scale. This is a list of items arranged according to its appearance at a particular age in "child society". The scale is not designed to test intelligence, but it probably does, especially at the younger ages. On the other hand, to the extent that it does not measure native intelligence it is affected by parental training—as of course maturity itself is affected. Actually the scale is limited to the measurement of how much the child can help himself in a given social situation. Social maturity is a broader concept than this, but no tests have yet been devised which attempt to measure the sum total of traits which go to make up this complex behavior. Some tests of emotional maturity and personality obviously include factors which reflect a person's ability to handle himself in a social situation, and yet these are not called tests of social maturity. At present social maturity is largely a clinical entity, not strictly defined, and dependent upon the characteristics of the individual case.—E.W.S.

Doll, Edgar A.: *Manual of directions for the Vineland Social Maturity Scale*. Vineland, N. J.: The Training School, 1935.

SPANKING. As a method of correction, spanking or any similar form of corporal punishment is now generally regarded by intelligent people as ineffective and often harmful. If it be assumed that its purpose is moral, then it is necessary to point out that it succeeds least

in convincing the child that his action was wrong; this is especially true of the younger children who have not yet established any firm moral beliefs and convictions. If the purpose be regarded as psychological, then it is well to learn that, in most instances of misbehavior, positive ways of conditioning or re-conditioning are definitely preferable. Moreover, violent punishment, whether it be an expression of outdated educational information or that of sheer emotionality, such as an outburst of anger or rage on the parent's part, can evoke only fear or irritation in the punished child. These emotions affect also the child's feeling of security; instead of approaching his parent (or teacher, as the case may be) with confidence, trust and affection, he learns to shun and distrust him. Hence the tendency to conceal, pretend and lie is encouraged; anti-social attitudes may thus become established, and the foundation for a distortion of personality is laid down. Even in the extreme cases when persuasion, remonstration and mild punishment no longer seem to suffice, spanking is not the right remedy, for the primary cause of misbehavior lies obviously not so much in the child's own original character as in his early environment or family circle; in other words, the burden of responsibility lies, in these cases, probably with the parents who have failed somewhere in bringing up the child—either in their own psychological attitudes toward the child or in their pedagogic procedures.

In addition to being ineffective as a method of correction, spanking leads to various psycho-physical ill-effects, especially in connection with the development of sex life. In fact, most investigators of sex problems learn from experience with pathological cases that many sexual maladjustments and perversions, manifesting themselves at a later age, have often their root in infancy and childhood. Numerous authorities contend, with ample reasons, that erotic emotion is commonly aroused in childhood by corporal punishment which may thus lead to the practice of masturbation. Sadism (q. v.) has a clear connection with spanking, insofar as it inclines the child to find compensation for his suffering in maltreating weaker children or pets. Masochism (q. v.) is only aggravated by corporal punish-

ment, which is then actually enjoyed and may be transformed subsequently into a genuine perversion.

For these and other valid reasons, educators generally frown upon spanking, even when it is resorted to in rare and exceptional cases. They rightly claim that correction of behavior can always be achieved by other, more effective, means. In all instances, spanking is likely to bring about in a long run unfavorable psychological results, even when it seems to achieve the desired end. —M.L.

See: PUNISHMENT.

SPEECH DEVELOPMENT. It is generally conceded that speech is one of the most important and complex aspects of a child's development. It is the chief agency by which an individual effects an adjustment to his environment, and controls that environment. From a practical point of view, it is unfortunate that relatively little constructive attention is given to speech development by parents and by the schools. As a consequence there exists a not inconsiderable number of children, perhaps 3% of any unselected school population, who are unnecessarily delayed or defective in their speech development. Such children have been shown to be retarded educationally, and in many instances their speech status is intimately related to deep seated and critical emotional maladjustments and behavior problems.

The literature on speech development is voluminous, particularly with regard to the chronological sequence in the acquisition of language. Unfortunately a number of these studies tend toward "anecdotal" reports of speech growth in individual children or small groups and the resolution of many disagreements must await additional findings based upon more rigorous methods of observation. It must be conceded, of course, that the extended study of a sufficiently large group of children presents enormous difficulties. The present discussion will make no attempt to cover the literature on speech development, but will rather undertake a broad summary which can be used as a basis on which to interpret the speech status of any given

child. A brief bibliography which might serve as the starting point for additional reading is appended.

We shall find it most helpful to treat speech development from two points of view: (1) the chronological sequence in which speech is acquired by the "normal" child, and (2) the capacities or abilities which the child must possess in order to develop speech. While great individual differences are found among children in the time and rate of speech development, the first topic will give us a somewhat flexible developmental scale. The second topic will guide us in the search for reasons why the speech of any particular child may be retarded.

The stages in the growth of speech may be divided in various ways, but we shall find it most convenient to describe such development in terms of (A) pre-linguistic speech behavior; (B) a second period in which true linguistic behavior appears in the form of words; and (C) a final extended period characterized by vocabulary growth and progressive mastery of complex grammatical forms. Any division must be somewhat arbitrary, since the stages blend into one another.

A. Pre-linguistic speech behavior: In a sense, speech begins with the birth cry, and with the purely reflexive vocalizations which are so prominent in early infancy. These latter cries are vocal responses to bodily states—chiefly hunger and other forms of discomfort—and the alert parent is usually able to differentiate the meaning of various "cries" rather early. One could, if one wished, argue that the use of speech to convey meaning had begun.

The antecedent to what we more customarily call speech, however, begins somewhere around the fourth week with the characteristic "babbling". This is a type of behavior in which the infant articulates various sounds in what apparently is a form of vocal play differing very little, if at all, from the random movements of other parts of the muscular system. Such babbling appears to be highly pleasurable and to reflect a sense of well-being. Some infants are occupied with babbling during a substantial portion of their waking hours.

The amount of time spent in babbling usually increases quite rapidly, as does

the complexity of the sounds uttered. The articulation of single sounds will be followed by di-syllables (two sounds) and tri-syllables (three sounds) and eventually babbling will merge into a period of jargon-like speech somewhere around the 12th month.

Studies have been made of the order in which the various sounds are first heard, and of the time at which they appear. The critical reader may sometimes question the value of such studies because of the apparent unfamiliarity of some of the writers with the sound system of the English language, and because of the strong probability of wide individual differences among infants. In general, however, it may be expected that the babbling will at first be confined largely to vowels, usually followed by consonants depending on activity of the lips (p, b, m), and finally by those involving tongue adjustments. We may infer that the phonemes (for example, s and r) involving nicer or more complex adjustments are more difficult for the child since they are usually heard rather late and may be inaccurately pronounced for some time after the child has begun to use words. The infant does not, however, confine himself in babbling to sounds of the language of his environment and he may be heard to produce phonemes which either belong to another language, or to none at all. This would be expected if babbling is a form of random vocal play.

The absence of babbling is not unknown, but the significance of such a phenomenon is by no means clear. Often speech correctionists encounter speech defective children who are reported to have babbled little or not at all. On the other hand, a significant proportion of the children with markedly retarded speech (including many who are deaf) are reported to pass through a normal babbling stage. There is no evidence to justify the association of limited or absent babbling with mental deficiency. In some cases the relationship between poor physical status and failure to babble is clear. The occasional instance in which babbling is prevented by paralysis of the muscles employed in articulation should present no difficulties in diagnosis. Babbling can rather easily be influenced by the amount of stimulation provided by the

adults who come in contact with the child.

In general, babbling can be regarded as an important antecedent to the emergence of true speech which is to follow soon. During this preparatory stage the child develops some measure of control over the articulatory mechanism. He comes unconsciously to associate the sounds which he hears himself make with the articulatory movements which are necessary for their production. He grows more responsive to the sounds of the language spoken around him and tends to imitate sounds or words. It is obvious that an infant will learn the language of his environment and that there is no other influence.

B. The emergence of true linguistic behavior: "Learning to talk" is usually identified by parents as the time when the first recognizable word is used by the child. Such an arbitrary designation is, perhaps, inaccurate and misleading. Speaking is a complex developmental process not easily divided into definite stages. The child has been learning to speak from the time of the birth cry onward, and he has made a very early use of vocalization to express meaning. Somewhat later he has undoubtedly used sound combinations which are to him verbal symbols, but not acceptable to adults as words in the ordinary sense.

However, one may fix somewhat roughly the time when a child begins to use words that correspond to those of his speech environment. Many influences operate to create rather extreme individual differences. Reasonably credible reports indicate that an occasional child will use one or more words as early as the 10th month or even before, but the more usual age is some time after the first birthday. Girls are consistently younger when the first word appears, and this difference in their favor may persist for a considerable time.

The process of learning the first word may loosely be regarded as imitative. The child has, of course, made a liberal use of sounds in babbling and has developed some measure of auditory discrimination. Names of familiar objects, which he frequently hears, or other words whose sounds appear interesting, are usually learned first. Any word which the child speaks in imitation, or

by chance, is likely to be strongly reinforced immediately by adults who will repeat the word and show obvious evidence of approval.

More or less coincident with the early words will be the growth of an extensive jargon "language". This will consist of bizarre and unfamiliar sound combinations which will often be spoken by the child with every visible evidence of meaning. To what extent this jargon is a complex modification of the earlier babbling cannot be determined. Beyond question, some of the jargon words are, for the child, actual verbal symbols with which he intends to say something. The amount of jargon used may become very extensive. During these months the child has become very responsive to words, and is willing to imitate those spoken to him regardless of the fact that he probably does not understand them ("echolalia").

The rate of increase in vocabulary is quite variable, so that a generalization is difficult. At 18 months the number may vary from one to several hundred, with an average of perhaps 20 words. Similar variability will be found in a normal two-year old group, with a probable average in excess of 200 words. From this time forward, the gain in vocabulary is likely to be very rapid. Frequently words are used for a while, and are then dropped. During this period girls are markedly superior to boys in size of vocabulary. Naturally the child understands many words he does not use in speech.

It must not be expected that the early speech will be made up of words which are correctly pronounced according to adult standards. The so-called "baby talk" is within the normal range of performance for a considerable time. Often the speech loses its jargon-like characteristics rather slowly. Some of the English sounds (for example s, r) appear to be difficult and until they are learned the child will either omit these sounds entirely or substitute others for them ("ittle" for "little", "wed" for "red"). Other sounds are acoustically confusing and may be interchanged ("fink" for "think", "yittle" for "little", "soo" for "shoe", and so on). It is usually stated that the speech can be considered normal if all of the sounds are learned by the seventh birthday, although this does not imply

that one should wait this long before assisting the child in the speech learning process. Where the supposed infantile speech characteristics are very marked after the third birthday, it is usually wise to have the child studied by a trained speech correctionist.

A specific word should be said in summary about the "non-talkers". If the child appears to be otherwise normal and babbles freely, no particular concern should be felt until the second birthday. Delay beyond this point does not necessarily indicate that anything is amiss with the speech, but the careful parent should have the child examined by a speech correctionist who may, in turn, suggest that other specialists see the child. The necessity for such study naturally becomes more urgent as the child grows older.

C. The elaboration of speech behavior: The process by which speech passes from the "one word" stage to the complex grammatical structures employing an extensive vocabulary which soon develops, follows a rather regular pattern. Ordinarily the first words learned are nouns, followed by an admixture of adjectives and verbs in which the latter predominate and finally the remaining parts of speech. The rate at which new words are learned is variable and there may be considerable periods in which little progress is apparent, followed by later intervals in which large numbers of words are acquired.

One usually feels that the child has passed another milestone when he first joins two words in what is accepted as a sentence. It is rather difficult to fix a time when the child may be said to use first sentences. In one sense, a single word may be considered a sentence since it conveys a complete thought unit. Thus, "water" means "I want a drink of water". However, the sentence or "phrase-sentence" should have made its appearance by the 24th month—although one must bear in mind again the wide individual differences—and at this age sentences of more than two words are common. By the 42nd month, the sentence form is usually rather elaborate. The use of plurals and of tense is usually not heard until about the 30th month. An excellent discussion of these points will be found in Gesell, to whom reference is made in the bibliography.

Having discussed the chronological sequence which may be expected in speech development, it is of interest to note next the different capacities or skills which the child must possess in order to develop speech. Most of these elements are developmental, and as they emerge in the growing child they prepare him for speech. It is useful to think in terms of "speech readiness" and to assume that the child will speak when, by reason of his development, he is ready to do so.

Specifically, the emergence of speech will depend upon the following: (a) an intact physical mechanism which is structurally capable of speech functioning, (b) adequate motor development, (c) adequate level of intelligence, (d) adequate auditory acuity, (e) a capacity for symbolization, and (f) adequate stimulation. In the event that one or more of these is absent, or deficient in its development, a proportionate delay may be expected in the speech.

(a) Intact physical mechanism: Only very rarely do we find children whose speech is adversely affected by structural irregularities in such a way that speech does not appear, and in these instances the deviation from normal is usually so marked as to call immediate attention to itself because of interference with basic biological functions. In the vast majority of cases, if the peripheral mechanisms which are employed in articulation and phonation are capable of normal action for the biological functions of respiration and feeding (chewing, sucking, swallowing), their structure is such that normal speech is possible. A common deviation from the normal is cleft lip and cleft palate, which occurs approximately once in each 2,000 births. In these cases either the lip or palate, or both, are imperfectly developed. In the case of cleft lip, certain lip sounds (p, b) are chiefly affected and these will be improperly pronounced by the child. In the case of cleft palate, virtually all of the sounds are difficult since the opening in the roof of the mouth prevents the child from building up the oral breath pressure which is necessary for the speech sounds, particularly the consonants. Dental abnormalities may later make the pronunciation of some sounds difficult.

Defects in the mechanism of phona-

tion are rare, and usually are easily detected. In these cases the child will be unable to phonate under any circumstance, and therefore such sounds as are normally made in crying and laughing will be absent. When this is the case, proper medical study should be undertaken at once.

There is unfortunately a tendency to attribute all abnormalities in speech to abnormal structure in the peripheral speech mechanism. While these abnormalities do exist, it has already been noted that they are relatively rare, and absurd and illogical diagnoses of speech defects are not infrequently made. One common illustration is the operation to relieve "tongue-tie", regardless of the nature of the speech abnormality. While there undoubtedly do exist instances in which the movement of the tongue is so restricted as to affect speech, the writer has observed none among several hundred cases of children with defective speech. He has, on the other hand, studied many children who have been needlessly subjected to this minor operation. Likewise removal of tonsils and adenoids is occasionally recommended as an aid to speech. If, after proper medical study, it is found that diseased tonsils and hypertrophied adenoids are affecting the child's general physical condition or his auditory acuity, the result of their removal will be to improve the general physical status and for this reason the speech probably will be influenced favorably. However, the tonsils and adenoids of a speech defective child need not be removed unless there are definite medical reasons for the operation; there is no direct relationship to speech.

(b) Adequate motor development: closely allied to the preceding discussion of structure is the question of motor capacity. A moment's reflection will demonstrate that speech is an extremely complex motor function. It requires the co-operation of the respiratory system in breathing, the laryngeal mechanism in phonation, and the musculature of the tongue, palate, lips, and face in articulation. The utterance of a single sound is in itself the result of a most complex formation of neuromuscular elements, and when these sounds must be joined in complex serial order—as is the case in sentences and

words—it is not difficult to realize that normal speech development can come about only if motor development is within the normal range.

In the case of the so-called "normal" child, the emergence of speech is directly related to the child's developing motor capacity. Thus, the early random "babbling" represents a gross type of motor speech activity which is compatible with the gross motor activity of the larger muscle groups in general. As chronological age increases, the general motor capacity improves and as one aspect of this growth the speech mechanism is capable of more accurate and finer co-ordinations. In this connection, it is obvious, of course, that a parent should demand no more perfect speech performance than the child's motor skill warrants; and that furthermore it is entirely normal for the child who is beginning to speak to make numerous errors. Interesting studies made at the University of Iowa of a group of pre-school children have shown that a substantial percentage of youngsters at some time in their development go through a period in which they display certain articulatory errors which are characteristic of stuttering. These are not, of course, stuttering children in the ordinary sense of the word; they are rather children whose motor capacity is inadequate to the demands that are being consciously or unconsciously placed upon them. As a consequence, they show a cluttered type of speech arising from relatively limited motor capacity.

While it is generally conceded that the degree of motor development is one important determinant of speech readiness, relatively few research studies have been made to clarify this relationship. Furthermore, the entire picture of general motor development in the child and the factors influencing it are still obscure in some details. We do know, however, that there appear to be inherent individual differences both between boys and girls, and among different children of the same sex. Girls mature, so far as motor capacity is concerned, somewhat earlier than boys and this is unquestionably one of the factors responsible for the clearly established superiority of girls so far as age of talking is concerned. Among individuals of the same sex, often many

months difference is found in certain developmental incidents which can be taken as measures of maturity in motor skill. Walking, for instance, may often occur as early as the 10th month (or even earlier) or not appear until perhaps the 15th or 16th month without being abnormally delayed. Even when such obvious influences as the child's weight, the amount of stimulation, and others are recognized and taken into account, there still remains the necessity of attributing some difference in rate of learning to walk to inherent constitutional factors. When all other factors are held constant, speech development will show the same chronological variability and there will be a rather wide range in the limits of what we can call the "normal" age of talking.

Slowness in talking may frequently be associated with retardation in motor development arising from injury and disease. The most obvious illustrations may be drawn from such types as the child with cerebral palsy. This is a motor disorder arising from some type of lesion in the higher centers of the central nervous system, and the specific symptoms depend both upon the site and the extent of the lesion. In severe cases the effect upon speech, as well as upon other motor activities, will be striking and will seriously interfere with normal development. In other instances a very mild motor disorder arising from this cause may result in no condition which attracts definite attention to itself from the casual observer; yet it will be responsible for retardation in such a complex motor function as speech.

Motor retardation may be found without any demonstrable injury to the central nervous system. Such children are usually not only slow to talk, but they also are likely to be later than the average in such manifestations of motor development as sitting alone, standing alone, and walking. There will be, however, no definite impairment of muscle function as one might find in some type of paralysis. Usually children of this sort have a medical history indicating that they have, or have had, a poor physical status. Any disease or injury which impairs the child's general health or physical efficiency is likely to retard motor development, and hence to interfere with the normal develop-

ment of speech.

A word should be said about "paralysis" or "weakness" of only the muscles used for articulation as a cause of retardation in speech development. Except in the case of a relatively few rare neuropathologies, not often found in young children, these particular muscle groups are most unlikely to be affected in this way to the exclusion of a similar condition in other muscle groups. Hence the rather common tendency to attribute delayed speech to "paralysis", "weakness", or "sluggishness" of the tongue and other articulatory muscles is usually incorrect. Where there are reasons for doubt, of course, a proper neurological study should be made.

(c) Adequate intelligence level: One of the most important aspects of development which affects speech readiness is intelligence. The connection here is very direct, because, if all other elements of speech readiness are growing at the normal rate and within the normal limits, speech will develop as soon as the child's intelligence is sufficiently advanced. It is not necessarily too much of a simplification to observe that a child talks when he becomes intelligent enough to have something to say—provided always, of course, that he is otherwise ready. On the other hand, the mentally retarded child may be otherwise "ready" to talk and yet fail to develop speech because of the limitation of mental ability.

Numerous research studies relating to speech and intelligence have been made. Several show that high positive correlation exists between chronological age at the time speech appears and intelligence. Frequent exceptions to this generalization will be noted, of course. In some instances, the child of superior intelligence may be slow in talking because of deficiency in other elements of speech readiness. In a more limited number of cases children of superior intelligence may be slow in talking even though all other observable factors seem to be favorable. Here, however, one must assume that causes for delay in speech development exist but have not been discovered because of inadequate observation. Certainly, the close relationship between speech and intelligence cannot be questioned and various studies indicate that, in general,

speech is more likely to be appropriate to a child's mental age than to his chronological age.

In studying a given child whose speech is retarded, one must evaluate cautiously the relationship between talking and intelligence. There will be found those who regard speech retardation as a certain sign of limited mental development. It is true that marked speech retardation which cannot be attributed to other causes is strongly suggestive of mental deficiency, but it is by no means definitely diagnostic. One obvious factor which may lead to a mistaken evaluation of such a child's intelligence is the fact that one who has little or no language responds very poorly to even the so-called "non-language" tests of intelligence.

(d) Adequate auditory acuity: Like intelligence, adequate auditory acuity is one of the most critical requisites for normal language development. It is obvious that the child depends in a large measure upon auditory cues (although by no means exclusively so) in the development of speech. It is likewise clear that a loss of auditory acuity or deafness may affect speech even to the point of complete mutism.

Not a great deal is known about auditory acuity as a developmental factor, but it is generally assumed that, if any increase in auditory sensitivity after birth occurs at all, such development is very rapid. It is possible that this sense receptor is functioning with maximum efficiency at the time of birth. By the time a child is old enough to co-operate in its measurement, pitches varying from approximately 16 cycles (one octave below the lowest bass note on a piano) to approximately 20,000 cycles (roughly three octaves above the highest note on a piano) can be heard if they are of sufficient intensity. The sensitivity of the ear to intensity ranges is exceptionally great and sounds of very limited intensity (less than 0.001 microwatts) are perceptible.

The average "loudness" of speech (approximately 15 microwatts) is well above the level of sounds of minimum perceptible intensity, and therefore a child may be able to hear and thus develop speech even though his auditory acuity is, in a strict sense, poorer than that of the average ear. Beyond

a certain minimum level, however, further losses in auditory acuity will progressively affect the speech. Not all speech sounds will be equally involved since their acoustic characteristics vary widely. Some are of greater "phonetic power" and hence can be heard more readily. On the other hand, sounds of low phonetic power (th, for example) are very frequently missing from the child's speech when only a moderate hearing loss is present. The relationship between speech and hearing is made somewhat more complex by the fact that rarely is there an equal degree of loss of acuity for all frequencies. This affects the perception of speech in a complex way because of the fact that each sound has its characteristic frequencies (apart from the pitch of the voice itself which may be thought of as a sort of "carrying wave") by which it is identified. When, for example, the hearing for low frequencies is good, but for high frequencies poor, the so-called high frequency sounds (s, th, f, for example) are likely to be missing or defective in the child's speech.

Hearing losses of varying degrees are not uncommon in children. Many of these deficiencies arise in infancy or early childhood as a result of disease, while in other instances the losses may be present from birth. Deficiencies existing before speech is learned are naturally predisposing toward delay in the acquisition of normal speech, while speech already learned may degenerate as a result of deficiencies acquired later in life. Naturally, also, the more profound the hearing loss, the greater the effect on speech. It is by no means impossible that a hearing loss of so small a degree that it might not otherwise be noted can affect speech development in a very definite way.

(e) Capacity for symbolization: This element, as a prerequisite to normal speech, is not entirely understood and many pertinent theoretical questions remain to be answered. We do know, however, that the speaker in some manner "stores up" and "associates" meanings and that articulate speech depends upon these neural elements. For example, English speakers learn to use the combination of sounds "b"—"a"—"b"—"y" in a word "baby", and this combination of sounds, or

word, is the symbol which designates a certain meaning. In the development of language, the infant must in some manner retain, in usable form, these symbolic meanings.

This capacity for symbolic formulation is not always present. In fact, a number of language disorders (e. g. aphasia) have their chief characteristics in the loss of this symbolic ability. Furthermore, the capacity for symbolic formulation appears not to be present at birth, and in some instances failure of its appearance may result in retardation or absence of speech development. The ability to use symbolic meaning is closely associated with intelligence, and one characteristic of mental deficiency is the absence of this ability. However, a child may be capable of intelligent behavior and yet have a marked language handicap arising from a deficiency in symbolic ability. In cases of this type there usually is some presumption of injury to or destruction of tissue in the higher neural centers. Some writers tend to identify such loss of symbolic ability with what might be termed a failure of the central nervous system to achieve a normal functional integration.

(f) Adequate stimulation: Adequate stimulation constitutes one of the prime factors in the development of language. It is highly probable that many of the marked individual differences in the time and rate of speech development can be attributed directly to the extent to which the parents and other adults stimulate the infant. Instances are not rare in which a lack of stimulation results in defective or inadequate speech development—in just the same way that excessive carrying may prevent the development of walking for a time.

In the case of the normal child in a "normal" environment, parents and other adults will very early afford a good deal of stimulation through talking to the child, naming objects for him, offering model sentences ("see the doggie"), and so on. Earlier they may have encouraged "babbling" by joining in this activity. Any moderate success in articulating a word is likely to be rewarded with immoderate and extravagant praise. As the child grows older, adults will usually demand increasingly more from the child's language—both

in extent and accuracy. While this more or less random stimulation can be harmful under circumstances where unreasonable demands are made, in the usual case it is not only beneficial but quite necessary for the adequate development of the infant's speech. Moreover, as the child's intelligence develops, he becomes more attentive to the world around him and he is thus provided with a wealth of circumstances which make him wish to use language for both the understanding and management of the environment.

It is not difficult to see, however, that a child may learn to do without any kind of spoken language; at least, for a period. In early infancy, any cry usually brings immediate attention, and a search is instituted at once to discover and remove the cause of the crying. Customarily such generalized crying quickly becomes differentiated into series which mean different things. Somewhat later more or less undifferentiated vocalizations, usually with gestures, come to have a meaning, and parents become remarkably skillful in interpreting the wishes of their children without the medium of language. At a slightly later age it is by no means uncommon for the child to satisfy relatively simple desires by pointing to what he wishes, or to retain a complete jargon language.

In relatively rare instances such a course of development may result in a child who, in a sense, doesn't talk because he doesn't have to. Where this tendency persists beyond perhaps the 42nd month, however, one may suspect usually the existence of some cause in addition to inadequate stimulation. The frequent dictum "He could talk all right if you would make him" is usually both unjust and dangerous. Such a child usually requires careful medical and psychological study and constructive guidance.—J.C.

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SPEECH DISORDERS. Speech is a normal human activity. If it does not develop normally or is not used correctly, this indicates some disturbance in the organism or in the personality of the speaker. Speech disorders, which are symptoms of some basic defect in evolution, of maladjustment, or of some physical or psychical abnormality should be treated as early as possible. The social standard of a person is widely determined by his speech ability and any speech impairment is a social disadvantage which may influence his whole life. At present educational and medical institutions provide many opportunities for speech correction in schools, colleges, and hospitals.

Speech develops during the first six years of life. A normal child usually begins to speak at the age from nine to twelve month, but even a later onset of speech may still be considered normal. By the age of two years, a child should have started to speak. If he has not begun to use words by then, professional advice should be sought.

MUTISM is the first severe speech disorder. It may have different reasons; one of the most frequent is deafness. A deaf child does not speak, because he does not hear speech. Even a hearing impairment of more or less considerable degree may suppress the formation of speech in a child, which is only hard of hearing. Most deaf-mutes have no abnormalities in their articulative organs which would hinder them to speak. Articulated speech can be taught to them by touch and sight and many deaf-mutes learn to speak

fairly well; their voices however retain a peculiar quality, due to the lack of acoustic control. They are taught to understand by lip-reading. The "sign language" is still used among the deaf-mutes themselves, but its use is declining.

HARD OF HEARING children may be greatly improved by acoustic training which increases their discrimination and their understanding. This progress will also favorably influence their speech. They should also have the additional benefit of lip-reading and of hearing aids, in order to approach normals as near as possible. As a rule even children who are considered deaf have some hearing remnants which can be developed for better use.

AUDIMUTISM is lack of speech in children with normal hearing. It may originate from one of the following causes: (1) Subnormal intelligence; (2) injuries to the brain at birth or in early childhood; (3) Malformation of the mouth and of the articulative organs (palatoschisis etc.), (4) extreme motor awkwardness; (5) extenuating diseases; (6) retarded general development; (7) psychical factors. In expressive audimutism the child does not speak, but understands fairly well what he hears; in receptive audimutism the child does not understand speech. Some children affected by receptive audimutism do not react to sound at all and pay no attention to speech. Others have a tendency to repeat echolike what they hear without understanding it. If the intelligence is not severely impaired, speech treatment as a rule provokes formation of sounds and words as well as understanding of speech. The therapy combines phonetic instruction with controlled play and educational guidance. In some cases it is necessary to stimulate the formation of sounds with tactile and visual help, sometimes even with artificial formation of sounds. In other cases it is sufficient to show simple pictures to the child, naming them one by one, while the child observes the therapist's mouth. Other mute children require special stimulation of the acoustic area by noises, music, speech and special acoustic training. In every case of audimutism the family background is very important and the child's life has to be adjusted to his psychological needs.

APHASIA, or loss of speech after injury to the brain, is not frequent in childhood, but it occurs sometimes after severe infectious diseases, after trauma to the head through an accident, etc. Such disorders often take the form of complete mutism which vanishes when the child regains his health. In other cases, treatment is needed, but the prognosis is usually good, if the brain injury is not too severe.

If speech develops spontaneously, but too late, this is called **RETARDED OR DELAYED SPEECH** development. The causes are the same as the causes for audimutism. Retarded speech shows as a rule several abnormal phenomena. Each period in a child's life has its own functional task; hence speech forming at a later period does not form harmoniously. At this later stage it develops more quickly, but frequently there are defects in articulation—**DYSLALIA**—and defective use of grammar and syntax—**PARAGRAMMATISM**. Speech guidance for these children is advisable till they have reached a normal level of development.

DYSLALIA—which means incorrect formation of sounds, substitutions of one sound by another or lack of sounds—is frequent in childhood. While the child is just learning to talk omissions, substitutions and defects in sound formation are normal (baby talk), but this has to be overcome in due time. The use of baby talk by the family and any encouragement of the child to persist in it are of real damage.

GENERAL DYSLALIA is a state of speech, in which most of the sounds are formed or used incorrectly. Speech may become nearly unintelligible. Defects of intelligence, central disorders, such as defective acoustic perception and memory, motor awkwardness or a peculiar psychical attitude may be responsible for this and other forms of dyslalia. In order to achieve correct articulation it is often sufficient to let the child repeat simple sentences in reference to coloured pictures. By observing the lips of the therapist, the little patient gets also visual stimulation. This simple procedure increases his attention and his understanding of speech. In other cases, it is necessary to teach correct sound formation by tactile and kinaesthetic instruction; this is especially useful in children

with defects of intelligence. General increase of their intelligence level will also improve their speech ability.

Especially frequent forms of dyslalia are incorrect formation of the sibilants s, sh, z, and th (lispings or sigmatism); these are often caused by motor awkwardness, as these sounds require especially distinct and exact articulation. But they are also found in cases of impaired hearing for high tones, which are especially characteristic for the sibilants. Some cases of sigmatism are psychogenic. Another frequent form of dyslalia is defective formation of the sound r (rhotacism).

Hard of hearing children show often defects in articulation, as they do not differentiate sharply enough the sounds they hear and have not sufficient acoustic control of their own speech. Acoustic training and visual-kinaesthetic teaching of correct sound formation will be helpful.

ABNORMAL NASALIZATION, either an excess of nasal colour (hyperrhinolalia) or insufficient nasal resonance (hyporhinolalia) give a disagreeable timbre to the voice, and in excessive cases may even affect the intelligibility of speech. Malformations in the oral area (cleft palate or other organic defects of the palate, the gums and the lips) impair the ability for normal articulation, and some children affected with them show delayed speech development. They show also many defects in articulation: these are partly due to the fact that air escapes through the nose during phonation of all sounds, and partly to motor difficulties due to abnormal development of the articulating organs. These children present as a rule a severe picture of dyslalia. The treatment consists in showing correct sound formation, in breathing exercises and, in cases with large defects of the palate, in the use of a prothesis (obturator). An excess of nasal colour may be due also to insufficient movements of the soft palate, either by habit or caused by paralysis or paresis. Gymnastic exercises to strengthen the velum are used in order to suppress the exaggerated nasality. The "pushing exercises" consist in strong downward pushing movements of the arms with closed fists: this strong contraction of the arms irradiates to other muscles and induces finally con-

tractions of the velum. As soon as the velum moves sufficiently to occlude the communication between nose and mouth, the nasal colour disappears.

HYPORHINOLALIA (insufficient nasal resonance) is remedied by breathing exercises, and by special training in the articulation of nasal sounds, *f. i.* by letting the child feel the vibrations produced by them on the nose.

DYSARTHRIAS — speech disorders produced by central motor disturbances of the speech muscles—show many phenomena similar to dyslalia. Dysarthria, often called “spastic speech” if it is connected with spastic paralysis of articulating muscles, is treated with gymnastic exercises of the articulating organs and of the respiratory apparatus. General motor education is often a great help for speech treatment.

One of the most serious disorders of speech in childhood is **STUTTERING**. If stuttering persists over a long period, it becomes a neurotic disorder, which may influence the person's whole life and injure his personality. As a rule, there is no physical basis for stuttering. Only in rare cases does stuttering appear after an injury to the brain. Usually stuttering develops gradually on a neurotic basis. The treatment therefore consists in psychotherapeutic and educational measures. If stuttering is treated early, most of the cases can be cured permanently. Often stuttering is found among the members of the same family, in several individuals, as it is easily transmitted through imitation.

No one is born a stutterer as so many patients believe. Stuttering is a disease evolving with the growth of the personality. During the period of speech formation the child does not yet master his own language completely. His thoughts often run more quickly than his tongue; the words he needs to express himself come too slowly. In this embarrassing moment the last syllable or the last word he has uttered is repeated over and over until the next word is found (“clonus”, so called for the resemblance to clonic spasms). This is a normal occurrence in the development of speech and should be overcome in a short time. If the child does not outgrow these repetitions in due time, he may begin to observe them either spontaneously or because of the exhortations of his family, who tell him

to stop this “bad speech”. As soon as the child becomes exaggeratedly speech-conscious, he tries to suppress the repetition with an effort and with an amount of force not needed in normal speech. This symptom is called “blocking” or “tonus” from its resemblance to tonic spasms. It is always a sign that the child is conscious of something unusual in his speech. Often it is the beginning of a neurosis.

It should be emphasized that criticism of the child's speech and drawing his attention to it as well as urging him to speak are definitely harmful.

As soon as the stutterer observes his speech, the different symptoms appearing from now on are created by himself. The picture becomes more complicated: repetitions and blocking occur in different combinations; concomitant movements are made with his head and his body; he makes faces, smacks his lips and stops to look at the person he is speaking to; he flushes or becomes pale before or during speech, etc. He may use filling words or sounds if he cannot express himself promptly. Finally, in order to avoid certain sounds or words, the stutterer may say things far apart from his real meaning. As a result his mind may be influenced, though stutterers are usually of superior intelligence. His whole life is deeply affected; inferiority complex and phobias combine to make him miserable.

In initial stages of stuttering and in very young children, it is often sufficient to slow the speech-tempo to half its speed; descriptions of simple pictures are useful, as they enrich the child's vocabulary. The discrepancy between expressive ability and the afflux of words is thereby removed and the child again begins to speak normally.

The psychotherapy of stuttering is based on logical explanation: we explain that the mouth is formed primarily for breathing and eating. The movements involved in these functions are then used in speaking. Speech movements are actually identical with chewing movements. As the stutterer has no difficulties in eating, his speech disorders cannot be based on a real motor difficulty. The patient is told to “chew his breath”, which means that he should make real chewing movements during a voice emission. Many

speech sounds originate in this way. We explain to our patient that speech is not any more difficult than chewing and we must guide him to the same attitude towards real speech. With this method many stutterers lose their speech anxiety and regain their mastery of speech. Though the progress in speech ability has a favorable effect on the whole personality, general psychotherapy has to be connected with this treatment.

VOCAL DISORDERS occur in childhood most frequently in the form of HOARSENESS, usually as a result of the abuse of voice through shouting and screaming. The first stage is due to exaggerated tension of the vocal organs—spastic hoarseness, which produces a harsh, noisy voice. Even vocal nodules have been observed in children before adolescence. This may give way to weakness of the vocal cords which no longer close completely and produce voice with an overflow of breath (paretic hoarseness). Breathing exercises and measures to relax vocal tension in the spastic stage (f. i. through the chewing method) and to increase it in the paretic stage (f. i. through the pushing exercises) are useful in restoring normal vocal function. In some cases the change of the voice in puberty brings the voice back to normal levels.—A.J.

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SPELLING. Children who read extensively have as a rule little difficulty with spelling, partly because extensive reading is positively correlated with intelligence and partly because reading (and writing) automatically improves spelling. Cases of spelling disability are found, barring exceptions, mainly among children with I. Q.'s below average as well as among poor readers; children who start reading very early may temporarily be poor spellers, especially if they are taught by the method of reading whole words. In some instances, children develop an antagonistic attitude toward reading, writing and spelling, arising often in the feeling of inferiority toward school work in general; in these cases, the attitude must be corrected before any improvement in spelling can be expected. Bad vision or hearing may be a contributing cause.

See: **READING DISABILITY, REMEDIAL WORK.**

STANDARD SCORE. The standard score fills the need for a measure which shows a person's position in a particular group and which furthermore can be compared with like measures ob-

tained in other groups. Raw scores cannot be compared—75 may be high on one test but low on another; and the score itself does not indicate the individual's position in the group. A simple method for obtaining a standard score is to convert raw scores into standard deviation (S. D.) scores by

the formula $\frac{X-M}{\sigma}$ where X = raw score, M = mean of the group, and σ = standard deviation of the group. This formula yields values which sometimes have both decimal points and minus signs, because when S. D. units are laid off along the base of a normal curve of distribution the mean is 0 and S. D. units to the right are plus and those to the left are minus. To eliminate this awkwardness a common device is arbitrarily to set the mean at 50 and the standard deviation at 10. Thus a score which is one S. D. below the mean is 40, and minus values are eliminated because a score rarely falls more than three S. D.'s from the mean.

Standard scores have the virtue of being able to be added, subtracted, averaged, etc., without loss or distortion of significance. For this reason their wide use has been urged, especially to replace other measures, such as the I. Q., which do not indicate the individual's standing within the group.

—E.W.S.

STUTTERING. See: SPEECH DISORDERS.

SUBMISSION. See: ASCENDANCE-SUBMISSION.

SUGGESTION. Suggestion is one of the most influential forces in our life. We practice it daily either consciously or unconsciously in directing our own actions or in influencing the actions of others. Wise parents and teachers make much greater use of suggestion in controlling and training their children than they do of command and rebuke. The influence of suggestion on children is seen in the soothing and healing effect the mother's caress, kiss, or sympathetic touch or word has in cases of hurts, bruises, pains, and disappointments or griefs. The little child falls and hurts its head and runs crying to its mother. The mother kisses the spot

and assures the child that the hurt is gone and instantly it disappears.

What, then, is suggestion? We may define it as an idea in our mind which has the power to suppress an opposite idea. Or we may define suggestion in terms of action by saying that it is a stimulus—any situation or instruction—that sets off a tendency to act without at the same time setting off counter or competing tendencies. Seeing another yawn suggests yawning. Tell the adolescent girl that she is blushing and immediately she begins to blush.

Suggestions are ideas no different from other ideas, but the way they take hold of the mind reduces the chances of opposite ideas getting into the mind; in fact it inhibits them. The thoughts that worry us at night and keep us awake are dispelled by suggesting pleasant thoughts to ourselves and we go to sleep. The disturbing sleep of children is often caused by the wrong kind of suggestion in their lives. A disquieting environment, turmoil, family disagreements, over-excitement, thrilling reading and movies, and the like, produce ideas in the mind that cannot be fully counteracted or inhibited even during sleep. An overabundance of such suggestions produces the so-called nervous child. The treatment in such cases involves re-education in the form of less stimulating suggestions.

Any successful system or method of education rests on suggestion. Ideas are implanted in the mind in such a way that they will be accepted and acted upon. Were it not for the innumerable suggestions that education has impressed upon our minds our life would be a chaos of conflicts. For every motive or desire in life there would be an opposing one tearing us between decision and indecision. Similarly education in family traditions and customs, social conventions, group mores, political views, and religious sentiments are all based upon suggestions that have been accepted through education. It may be true that often we follow the suggestions blindly and without reason but follow them we do just the same. We may listen to arguments for the other side which might easily convince one of the same political or religious faith but we are not impressed by them. They cannot overcome the re-

sistance that our strong convictions set up against them due to the strong suggestion established in our inner life.

Suggestion may be either direct or indirect. We accept direct suggestions from those whom we respect and look up to, and from those who have prestige or authority. Parents, teachers, officials, commanders, priests, and others who occupy positions of authority, and the hypnotist, produce uncritical action by means of direct suggestion.

We are bombarded by means of indirect suggestion on every hand. Advertisements in the newspapers, magazines, and on billboards and the radio fairly swamp us with their suggestions for action along a thousand different lines. Shop windows and electrically lighted signs do the same. The lawyer before the bar uses the power of suggestion in arguing his case. The teacher in her class makes constant use of it. Parents do so in the wise guidance and control of their children.

Suggestibility varies with people and conditions. Some persons are more suggestible than others. It is said that women are more suggestible than men, and those with emotional and nervous temperaments more than those with calm and stolid temperaments. Suggestibility is heightened by fatigue, emotional disturbance, drugs, ill-health, fasting, group emotion, prestige, and hypnosis.

There is nothing abnormal or morbid about suggestion despite the fact that under its power we sometimes do buy the thing we do not need or we do follow advice we would reject if given more deliberate consideration.

The therapeutic value of suggestion, especially in the functional neuroses has long been recognized. The psychological principle upon which it operates is that of dissociation. The mind is concentrated on certain things to the exclusion of everything else. Suggestion has the power to re-enforce or inhibit ideas. By suggestion the idea that is desired for health, let us say, becomes the idea uppermost in the patient's mind and is acted upon while contrary ideas are inhibited. In time the inhibited ideas are entirely eradicated. Thus the suggestion that the headache has disappeared, if accepted by the patient, is effective in removing the headache.

Many nervous weaknesses and faulty habits can be corrected in children by means of suggestions made during sleep. Children do not wake up easily when spoken to in sleep, hence suggestive therapeutics may be employed with them. To be most effective such suggestions should be made by the mother or some other person who is on intimate friendly relations with the child. Childish fears, sleep-walking, enuresis, nervous twitches, unpleasant dispositions, and similar nervous reactions and faulty habits have been known to respond to suggestions made during sleep.

Suggestion operates during the waking state, in the state of complete relaxation and hypnosis, and in the sleep state. It depends on external stimuli for its operation. There is another kind of suggestion in which the individual imposes or propounds the idea to himself and acts upon it without deliberation. This is known as auto-suggestion. The mechanism involved in both kinds of suggestion is the same, namely, a narrowing of the field of consciousness to one idea, and holding this idea in mind to the exclusion of all other thoughts.—A.D.M.

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SUPERIOR CHILD. Superiority may be either generalized or specialized. At one time it was popularly supposed that superiority of one kind was usually offset by inferiority of some other kind. For example, it was supposed that intellectual superiority would be offset by physical weakness or personality defects. In general, the reverse is true. When large numbers of children are compared by statistical methods, superior children (defined in terms of intelligence quotient) are usually found to be above the average for their age not only in school achievement but also in height, weight, physical strength, social traits, emotional and moral development, honesty, play interests, reading interests, hobbies, and participation

in extracurricular activities. Several independent studies by different investigators in widely separated geographic areas confirm these findings.

Of course there are many exceptions. The literature of individual psychology is full of instances in which inferiority feeling provided the motivation for extraordinary efforts which resulted in outstanding achievement in adult life. Emphasis upon these exceptions, however, should not blind us to the fact that on the average the superior child tends to be superior all around.

Since the advent of the mental test movement, the terms SUPERIOR, GIFTED, and GENIUS have often been used to designate precise levels of intelligence quotient. At first, it was customary to call all individuals with I. Q.'s above 110 "superior", and all with I. Q.'s above 140 "geniuses". The extent to which superiority would be maintained into adult life was for a long time a hotly debated question, but facts are now available. Follow-up studies of "geniuses" (so designated on the basis of mental tests more than twenty years age) have not justified the morbid fears of pessimism nor the most rosiate hopes of optimists. In general, superiority has been maintained. The "geniuses" have made better than average college records and attained more than ordinary financial success as young adults. On the other hand, by no means all of them have been "geniuses" in the ordinary meaning of the word. Terman's study suggests that those who did not succeed so well were held back by motivational difficulties arising from an unsuitable educational regime. Terman recommends an endowed university for the highest decile of students and university-supported research in problems of the gifted.

Hollingsworth recommended reserving the term "genius" for 180 I. Q.'s, but various studies indicate that above 140, achievement depends less upon additional increments of I. Q. than upon emotional and motivational factors. P. Witty has pointed out that to be highly creative requires originality not measured by tests. He contends that we should identify the gifted not by intelligence tests but by consistently remarkable performance in any area. R. E. L. Faris has examined life-history data of actual geniuses (that is, persons so designated

because of unique achievements in adult life). He finds several common factors which help account for their attainments, among which are absorbing, obsessive interest, long study and effort, high standards, determination to eliminate imperfections, confidence in the value and availability of knowledge, self-confidence, and isolation from non-contributing social contact. Some of these, though they may contribute to achievement, involve mental hygiene hazards. For example, isolation from noncontributing social contacts would foster introversion and possibly develop a prepsychotic personality, laying the foundation for a possible schizophrenia (q. v.). High standards would involve the certainty of considerable frustration, even though the goal might ultimately be attained. Moderate attainment with mental health, happiness, and social adaptability are probably preferable to extraordinary attainment at too great a cost in isolation, effort, and frustration. In the education of the gifted, the goal should be to safeguard and develop their unique abilities without too much hazard to health and happiness.

There has been much controversy over the relative roles played by heredity and environment in the production of superiority. Goddard, Terman, Goodenough, Gesell, Burke, and many others stress the importance of heredity. Stoddard, Wellman, Skeels, Witty, and others stress environmental influences. It is generally agreed, however, that a certain minimum of hereditary potentiality is prerequisite to any influence that environment can have, and that individuals of the highest hereditary endowment can be damaged by adverse environmental influences.

Despite the controversy over heredity, the actual amount of agreement among psychologists as to what ought to be done for the superior child probably exceeds the amount of disagreement over theoretical issues. Modern psychologists are practically unanimous in believing that the superior child should be encouraged to exercise his intellectual powers as early as he shows the ability and desire to do so. Early school entrance, except in a nursery school or kindergarten, however, is contraindicated—not because the intellectual stimulation would be harmful (it

wouldn't) but because the regular school program too frequently involves eye-strain, prolonged sedentary occupation, and considerable restriction of the child's motor activity. All these may result in restlessness, nervousness, loss of appetite and impairment of growth. The superior child should enter school at about the usual age, but while there he should be permitted to do work commensurate with his ability. Certainly his spontaneous efforts to learn ought not to be discouraged, even when he displays an interest in higher mathematics and scientific subjects far beyond the abilities of ordinary children of his age.

This is in sharp contrast to a persistent popular notion that precocious children ought to be held back. This strange popular notion becomes intelligible in the light of its history. About a hundred years ago the idea became current that a precocious child was doomed to insanity and could be saved only by guarding him from all intellectual stimulation. It must be remembered that education at that time was harsh, demanding, and often punitive. There were devout and well-intentioned people who regarded play as a waste of time and believed it their duty to keep children incessantly busy with prescribed tasks, many of which were highly abstract and remote from children's interests. Authority was overvalued. Discipline was an end in itself. The dominance of the teacher was maintained at any cost. Punishment was accepted as an indispensable method of training. The rod was its principal instrument. Some children managed to adjust to this routine and even find satisfaction in it by developing the perversion of masochism, but for many the entire educational process involved a prolonged, unresolved emotional conflict. The amount of frustration suffered by a child was almost directly proportional to the amount of educational effort expended upon him. It is not surprising that superior children, singled out for special educational "advantages" of this sort, often broke down.

In those days there were also superior children who became "disciplinary problems" precisely because of their superiority. An intelligent, courageous, and determined rebel could upset an entire school for a while, sometimes

even driving out the teacher. Usually, however, the rebel's "will was broken" sooner or later. In more modern terminology, he was forced to outward conformity, while his hostility mounted, his aggression being repressed was often turned inward upon himself, resulting in guilt feelings.

When the superior child did not break down or become a rebel against the old-fashioned school's harsh discipline, he frequently became a model child. As such, he sometimes lost all initiative, became overdependent on praise and approval, set excessively high, unrealistic goals for later achievement, and became progressively less fit for the realities of adult life. For the model child, the breakdown often came in adolescence, when, failing to achieve the ambitious goals set by his educators, he experienced a sense of utter failure and worthlessness.

The high incidence of "insanity" among precocious children of the nineteenth century was observed and misinterpreted. Instead of recognizing that the educational system was too harsh and authoritarian on the one hand, and on the other hand too prone to plant false pride and unrealistic ambition, observers assumed that the breakdown was due to the intellectual stimulation the child had received. It was assumed that the remedy was to delay school entrance, avoid extra promotions, and limit the amount of study permitted. This actually worked to prevent breakdowns. It amounted to a scaling down of the level of aspiration, a reduction of tension, and an assurance that the child, no longer forced to study incessantly, would have time for rest and recreation and would not be suffering from the effects of cumulative fatigue. Since the assigned tasks would be well within the limits of his ability, he would be safeguarded from failure, frustration, inferiority feeling and usually though not always from punishment. Security and self-esteem became possible. He acquired the habit of success. His chances of succeeding in later life were infinitely better than those of the child who was hectored and driven or the one who acquired a false sense of his own talents, obligations, and destiny. Especially was he less in danger of developing a neurosis or a psychosis.

On the other hand, the superior child thus held back often became bored with easy tasks which offered no outlet for his abilities. At best, he idled and dreamed much of the time or wasted many precious hours in "busy work" of no educational value, while the teacher taught to duller children the knowledge already tediously familiar to him. At worst, he might become contemptuous of the teacher, the textbooks, and scholarship in general.

The advent of the intelligence test movement at the beginning of the twentieth century focused attention on the fact that thousands of superior children, potential leaders of the future, were acquiring undesirable habits and attitudes in the course of their school experience. It is not enough to exempt superior children from the horrors of nineteenth-century educational practices, only to subject them to the futile tedium that characterized many schools in the early twentieth century. Goddard, Terman, Hollingworth, Greenberg, and many other outstanding educators have pointed out that superior children should have a positive educational program designed to meet their special needs and to develop their fullest capacities for the benefit of society. The superior children are the hope of the future. No effort should be spared to eliminate the educational handicaps from which many of them still suffer.

Some of the peculiar problems of the superior child arise from the highly competitive character of the average public school. All children are encouraged to strive for high marks, but in many systems an arbitrary limit is set upon the number of A's, B's, etc. that can be awarded, often a definite proportion of the number of pupils enrolled. This means that the majority of children are foreordained by the marking system to fail to attain the goal for which they have been encouraged to strive. If the same superior children month after month are awarded the high marks for which the others have worked hard without success, it is almost inevitable that the superior children should become objects of envy. Unpopularity and social discrimination may be the lot of the excessively successful competitor. Some superior children react by withdrawal and introversion and by identification with the

teacher rather than the group. Others may learn to resent their high marks as a source of unpopularity, and deriving no satisfaction from school success, scatter their efforts in other directions. Reform of the marking system would go a long way toward solving this part of the problem.

But even apart from the question of marks, the superior child kept in the same grade with ordinary children of the same chronological age but lower mental age is usually doomed to waste much precious time in routine drills which the average child needs. Some educators favor rapid promotion of superior children, to keep them with other children of the same mental age, regardless of chronological age. This solves some problems but creates others. The young, superior child is by no means exempt from the jealousy of his duller, older classmates. On the playground, they may bully him. Since physical strength and athletic prowess are more closely correlated with increasing age in the early school years than with intrinsic superiority, the bright younger child classified with older children is likely to be left out of athletic games, unless adults insist upon his inclusion. In the latter case, the team forced to receive him may show their regret only too plainly. The bright young child, comparing himself with his classmates rather than his age-mates may get the notion that he is physically inferior, a weakling, unfit for active sports and unwelcome at them. The writer has observed this attitude in children who were above the age norms in height, weight, and strength.

Many educators prefer for these and other reasons to keep the superior child with other children of about the same chronological age, but to exempt him from unnecessary routine drills and permit him to spend his spare time in creative activities of his own choosing. This often works out very well in schools where all the children are allowed some opportunities to select their own activities in accordance with their own interests. But if the superior child is singled out for special freedom denied to others, he is again the target of envy, unpopularity, and reprisals.

Though the superior child does not attract so much attention as the feeble-

minded, he is just as much of a misfit in the conventional graded school, no matter in what grade he may be placed. An increasing number of psychologists and educators are coming to the conclusion that special classes for the gifted are as necessary as special classes for the feeble-minded. There has been some opposition on the ground that segregation of the gifted is undemocratic. This objection seems based on a misunderstanding of the sort of equality that democracy has sought to establish. Never in our history did democracy deny the reality of intellectual differences nor attempt a leveling-off of knowledge and ability. The equality sought was an equality of liberty and happiness. The modern school system which attempts to classify children according to ability and adapt its requirements to individual interests and potentialities does more for the liberty and happiness of all the children (bright, average, or dull) than the old-fashioned inelastic grading system could possibly accomplish. As Terman points out, democracy is not imperilled by an honest recognition of individual differences and a wholesome provision for them.

Some have feared that children singled out for placement in superior classes would be made conceited. Actually, these children have daily opportunities to compare their schoolwork with that of other superior children, so that they are less likely to develop exaggerated ideas of their own superiority than the lone gifted child left in a classroom of duller children.

Others have feared that the selected superior children would play less with "normal" children and hence become "queer". Actually, the removal of these children from competition with the "normal" has lessened the hazards of jealousy and unpopularity and increased the probability of happy, harmonious social relations.

In New York City, and elsewhere, experimental classes for the gifted have been tried long enough to prove their worth. The standard curriculum is mastered in about half the usual time and the time saved can be spent not only in an enriched curriculum but in a program that is vitalized and socialized, constituting a real preparation for leadership. Part of the time saved

from routine drills can be devoted to giving the children an earlier and more realistic acquaintance with the modern world, its potentialities, and its problems, and the various techniques which science offers for their solution. The microscope, the telescope, the test tube, etc., are familiar to many children of special classes for the gifted.

The fact that not all children eligible for these classes actually enroll in them has made possible matched comparisons between young people graduating from these classes and other young people of similar age and intelligence quotient graduating from the regular grades in the same city. In general, those from the special classes show equal proficiency in the ordinary school subjects, broader interests, better knowledge of contemporary world events, fewer personality defects, more initiative, and greater capacity for leadership.

Though the schools are steadily improving their facilities for gifted children, parents need some guidance in understanding these children and avoiding temptations that ordinary children do not present. To exploit the talented child for the gratification of parental vanity is a serious mistake. Like high marks, excessive adult attention excites envy and reprisals from other children, and creates a widening gulf between the superior child and his siblings and neighbors.

Furthermore, special precautions may be necessary to protect the superior child from unintentional exploitation by clubs, Sunday Schools, and other organized groups, who see in him only a promising addition to their entertainment programs. Moderate participation in dramatics, musical programs, athletic and social events, etc., is beneficial to all children; but the child who is repeatedly cast in a star role in the programs of his school, his Sunday School, his scout troupe, his glee club, etc., not only arouses the envy of others; he may commit himself to an expenditure of time and energy beyond what his health will permit. If rehearsals are held at night, sleep may be interfered with to a dangerous degree. If they are held during the noon hour ordinarily allotted for lunch, the child must either gulp his food or eat less. Impaired nutrition may result and the child may be an easier prey to defi-

ciency diseases, tuberculosis, and other ills that attack the undernourished. Even the brilliant child cannot be expected to foresee these possibilities. It is the obligation of his parents and teachers to see that he does not commit himself to too many extra-curricular activities that cut in on the hours which should be spent in sleeping, eating, resting, and outdoor exercise.

On the other hand, parents should be prepared for the fact that the superior child will mature more rapidly than the average. They should not try to prolong the period of infantile dependence. Increasing self-reliance should be encouraged. The superior child can be trusted to decide more things for himself than the average child of the same age.

Finally, parents should never attempt to reduce the superior child to mediocrity. This is actually done in a disastrously large number of cases—possibly because of a confusion arising from the double meaning of the word "normal". Ira S. Wile has suggested that the term "normal" ought to be relegated to lay usage along with its equally misleading opposite "abnormal". As used by most psychologists today, "normal" means simply average. "Abnormal" is applied in a statistical sense to extreme deviations of any sort, whether desirable or undesirable. But "abnormal" is also used in the sense of "pathological", and in this case its opposite "normal" means healthy and desirable. Psychologists and psychiatrists slide around from one sense of these terms to another, taking it for granted that the reader can tell from the context what sense is intended. This is a mistaken assumption. Not only laymen but even physicians are misled by the loose and confusing terminology of some psychological and psychiatric literature. Even in child guidance clinics, parents are sometimes told that the intellectual attainments or reading interests of a child are "not normal" for his age. Misunderstanding the usage intended, the frightened parent sometimes tries to curb the child's intellectual development, discouraging the very activities in which the parent had formerly taken pride. This change in the pattern of parental approval is sometimes very bewildering to the superior child, completely un-

dermining his security feelings.

Our superior children are the most valuable of our national resources. From them will come whatever artists, scientists, inventors, and leaders the future will have. Their deviation from "normality" is wholly desirable. Never should we refer to their peculiarities in any way to make them ashamed of intellectual attainment. Neither should we exploit them or cultivate the habit of showing off or do anything to make recognition seem more important to them than real achievement. Nor should we try to crystalize their ambition too early upon some definite goal which may or may not be possible of attainment. Instead, we should make available to them the intellectual resources of the past and present, encourage them to acquire a wide variety of skills, manual as well as intellectual, minimize their exposure to competitive situations (especially those which create a social gulf between them and their less gifted age-mates), encourage every spontaneous effort toward helpful social contributions, and trust the well-rounded superior child to become the superior adult upon whose wisdom the world of the future can safely depend.—M.F.M.

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See: GIFTED CHILD, INTELLIGENCE TESTS.

T

TEMPER TANTRUM. DEFINITION: A temper tantrum is a violent outbreak of anger. Its manifestations are complete loss of control, screaming, kicking, etc.; a child in a temper tantrum may throw himself on the floor and yell with rage. He may get red or pale in the face. Some children hold their breath during temper tantrums.

OCCURRENCE: Temper tantrums occur most frequently with children between the ages of one and three years. They are not necessarily an indication that some mistake has been made in dealing with the child. Outbreaks are to be expected as a response to the unavoidable experience that objects and persons in the surrounding world do not entirely conform to the child's desires. Several authors even stress the point that the complete absence of tantrums in early childhood may sometimes be an indication of an unfavorable development, and that tantrums are more desirable than sulkiness and exaggerated submission as a consequence of repressed anger. Only unusual frequency or unusual persistence of tantrums beyond early childhood is to be considered a problem. The belief that a tantrum is an indication of failure on the part of the educator may become a handicap in dealing with tantrums. The resulting feeling of guilt may create tensions which make it more difficult to handle the excited child.

CAUSES AND PREVENTION: Parents and teachers, by observing a great number of tantrums, have found some common features in the situation immediately preceding the outbreak. Such observation permits certain conclusions concerning both the immediate provocation and the deeper motives of temper tantrums.

Thwarting of any kind may induce

outbreaks of anger.

During early infancy the hampering of the child's movements by unsuitable or awkward techniques in holding, bathing or dressing the baby often cause temper tantrums. Too sudden interruption of a pleasurable activity, too sudden removal of a beloved toy, inability to reach desired objects, etc. are other antecedents of anger.

During later childhood the thwarting situations are often less crude, less physical, more symbolic. A child who is asked by parents or teachers to do things which are above his abilities may react with a violent outbreak. On the other hand, it has been observed that too simple assignments, below the child's level, create tension which finally may result in a tantrum. Inadequate toys, like broken vehicles, clay or wood too hard to manipulate, unsuitable paints, create a soil in which anger grows readily. Insufficient or badly organized space at home or at school has the same effect, especially with a larger group of children. An insufficient number of toys for a group of children often creates an atmosphere loaded with anger. However, even an ample number of toys is not a guarantee against aggression and anger connected with the problem of sharing and taking turns. Incompetent planning of activities in homes and schools frequently contributes to the outbreak of temper tantrums. A schedule with a well balanced alternation of quiet indoor activities and rough outdoor activities helps to avoid too much pent-up tension on the one hand and too much exhaustion on the other. Finger-painting, carpentry, climbing, running, and other activities may serve as energy release to avoid undesirable outbreaks.

Physical irritations such as indigestion, constipation, colds or fatigue favor

the outbreak of anger. Florence L. Goodenough found in a systematic study that the peak of the daily frequency curve of anger occurs shortly before the meal hours, when the child is hungry. Serving meals on time may thus help to control the temper tantrums.

Mere observation does not always discover the deeper motives responsible for a tantrum. The immediate antecedent may act only as the straw that broke the camel's back. Or the person towards whom the outbreak is directed may have become the object of an anger reaction through spreading of a conditioned response rather than through direct conditioning. Thus outbreaks of anger and hostility directed towards teachers or playmates may be the result of suppressed resentment which has been acquired in other situations and with other individuals than these who have actuated the outbreak; such pent-up resentment may have been accumulating to be discharged at any casual provocation.

Parent-child relationship and relations between siblings are often the basis on which anger responses grow, even if the actual situation in which the outbreak occurs may not indicate this fact.

The birth of another child in the family, especially of the second child, is a crucial event for the older one. Here and in other situations the tantrum may serve as an attention-getting device. The older child, mystified and offended by the sudden shift of attention towards the new member of the family, tries to reestablish the status quo by all sorts of devices and may find outbreaks of anger relatively effective. It is therefore of great importance to prepare children in an understanding way for the birth of a sibling. To give the older child a chance to be helpful with the care of the baby has often proved effective. He should be made to feel that he and his parents are a united group in taking care of the newcomer rather than that he and the baby are in competition for the parents' attention. Seeing the newcomer surrounded with attention may easily convince the older child of the fact that being helpless and behaving like a baby are assets. Therefore he may start to indulge in temper tantrum. It

should be stressed frequently during this period that the baby's helplessness is an unavoidable but definite shortcoming compared to his own independence.

Jealousy directed against one of the parents as a competitor for the affection of the other parent may influence the child in a similar direction. Exaggerated nagging is a thwarting influence on the child's free development and may create a deep feeling of inferiority; children who grow up in an atmosphere of that kind may act according to the unformulated motto: it is impossible to get approval by socially acceptable means, so why not impress by socially unacceptable devices. Over-protection may incapacitate the child to meet difficulties by solving them and thus lead to outbreaks of anger. Imitation is frequently responsible for temper tantrums. Self-control in parents and teachers is an important prerequisite for the upbringing of well-balanced children.

HANDLING CHILDREN DURING TANTRUMS: The adult should always try to keep as calm as possible. Isolating children above the age of infancy has proved an effective device; it is unavoidable in a group of children, because tantrums are highly contagious. In many cases the child has to be carried out by force. Touching him should be avoided after he has been removed from the scene; it may increase his rage. In extreme cases a tepid bath may be helpful to calm him down.

The child should never be given what he is crying for; success facilitates repetition. For the same reason he should never be made the center of attention while he has a tantrum, nor should he be bribed to make him stop. Frequent outbreaks, however, may indicate real lack of attention, needing remedy. But such considerations should be postponed until the actual tantrum is over.

Tantrums can be controlled as to frequency, violence, and persistency in two ways: first, by knowing what to do in a merely technical sense. Such knowledge may be gained by immediate experience or through experts in child guidance. Secondly, by creating a general atmosphere of serenity, benevolence, and self-control. The latter fac-

tor can be effected only to a moderate degree by mere advice. It is deeply connected with the presence or absence of neurotic tension in the parent's or educator's own personality.—E.A.W.

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TESTS. See ACHIEVEMENT TESTS, APTITUDE TESTS, INTELLIGENCE TESTS, PERFORMANCE TESTS, PERSONALITY TESTS.

THINKING. Thinking has been defined by H. C. Warren and his associates as "a determined course of ideas, symbolic in character, initiated by a problem or task, and leading to a conclusion." The symbols in terms of which thinking must be conducted are words or their equivalents in behavior. On the subjective side of experience, they are concepts ranging all the way from the most concrete ideas, such as 'dog', 'house', 'ball', or 'candy', to high abstractions like 'logarithm' or 'relativity'.

It is obvious, therefore, that young children do not think, in the proper sense of the word, for the simple reason that they have not acquired a sufficient amount of working concepts, even in their verbal form. An increasing mastery of speech introduces them, however, to a limited use of thinking, insofar as it is facilitated by culturally standardized concepts operating as words. This use is limited not only because children's vocabulary is comparatively small, but also because they learn words imitatively, without understanding quite well what they mean.

There are three serious obstacles to the development of the child's ability to think clearly and skilfully, namely:

1) Infantile solipsism; (2) Rationalization; and (3) The vague and loose character of concepts in everyday use.

The infant at birth is solipsistic, in the sense that he does not differentiate between himself and the external world. Whatever he perceives is a part of experience including himself, other human beings and his environment. Whatever he does not perceive has no existence for him. Hence the neonate, as J. Piaget's studies have amply demonstrated, has no attachments, sympathy, mercy, or sense of justice. He is not exactly selfish, to be sure: he merely does not comprehend the experience of others. Gradually he learns, however, to differentiate between himself and the world, as two opposites (subject and object). But this does not mean that he fully appreciates the experience of people, even of those on whom he depends. It will take him many years before he learns to grant other human beings a modicum of equality with himself and thus to become a well-adjusted member of society. Insofar as he is familiar only with his own way of perception, his own pleasures and pains, his own desires, needs and interests, he is unable to do justice to other persons' similar attitudes (to say nothing of dissimilar attitudes). For all practical purposes, other people remain for a long time part of the external world, objects rather than subjects.

It is highly important for the parents to help the child overcome his infantile solipsism. Even in the pre-school days, every opportunity should be used to impress upon the child's mind that other children, too, have desires and interests or experience pleasures and pains. Overprotection and pampering as well as the lack of normal social contacts make this task difficult. The attitude of regarding himself always before others is thus encouraged, and the child may fail to develop the right kind of social behavior, having never been properly introduced to the meaning of consideration, justice, good sportsmanship. Conceit and intolerance may be a result at an age when the child should learn to become socially-minded, appreciative of other children's feelings and interests; or he may form an undeservedly high standard of expectation for later life, which is likely to lead to frustration, inferiority and other stains of personality.

Rationalization, or wishful thinking, is closely connected with solipsistic at-

titudes; in fact, it is one of the most powerful defense mechanisms. It consists in the distortion of facts and evidence in such a manner as to make them conform to one's own emotions and desires; when facts cannot be denied, they are suppressed or selected in a way that works favorably for the child. Wherever rationalization does not lead to outright lies, it prevents the child from acknowledging his own guilt or mistake, from recognizing other children's rights or achievements, and from comprehending all sides of truth. As an established trait of character, in adolescence and later, it is a serious obstacle to learning; in its excessive forms, it may provoke continual resentment in one's social milieu.

Concepts are naturally vague and loose at an early age, simply because they are dependent on words, as they are used in a great variety of contexts. But toward the age of adolescence the child should be learning to alter the relationship, to use words merely as means of expression and communication, and to understand exactly what he means. Unfortunately, the value of clear, unprejudiced and skilful thinking is by no means well appreciated in our homes and schools. Most people grow up without knowing the precise meaning of most common words, as becomes obvious when one asks them to explain what they mean by 'democracy', 'education' or 'duty'.—R.B.W.

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THUMB-SUCKING. Thumb-sucking is probably a perfectly natural practice since sucking is one of the few instincts that children are born with. More than that, it may even meet a real need in the early months of life, and it is highly probable that there may be a thumb-sucking temperament or type of personality. In any event, in about 25 per cent of all children the habit is formed very early and persists for anywhere from two to four years.

Thumb-sucking may involve the thumb, alone or one or more fingers. Sometimes such accessory movements as

pulling the hair, stroking the ear, or placing one hand over the genital region accompany the sucking.

Why is the practice objectionable? Chiefly because it is a reflection on parents. It is regarded as "bad manners," and parents often feel that it indicates inefficient training. When continued into adolescence, it may lead to the bad habits of nail-biting and cuticle chewing.

Dentists are doubtful that thumb-sucking seriously deforms the mouth, palate, or jaw, at least permanently, although it is regarded as a possible cause of malocclusion of the deciduous teeth. The milder malformations resulting from this practice apparently tend to correct themselves if the habit is not continued after the child is four or five years of age.

Thumb-sucking is probably associated in the child's subconscious with nursery security. When he wants attention and adulation, he instinctively resorts to it because it recalls his early nursery days when he was the center of things. Again, it may accompany mounting negativism, in this case enabling the little fellow to assert his independence and keep his parents guessing.

This practice is usually taken too seriously. It is often only temporary and should be regarded as undesirable rather than pernicious. However, persistence of a child in the habit indicates that he is failing to grow up, and that it should be given attention.

In passing, one may inquire: Does sucking afford some subtle satisfaction, and does this explain why the baby sucks his thumb and the old man his pipe? Is inordinate cigarette smoking in any way related to this tendency?

1. CAUSES OF THUMB-SUCKING.

Hungry children, those who suffer from malnutrition, are the most persistent thumb-suckers. Their diet should be very carefully studied from every angle, including its vitamin content.

With infants, frequency of feeding, that is, the amount of sucking they are permitted to do, has a direct relation to their indulgence in thumb-sucking—the more normal sucking, the less thumb-sucking. One authority holds that bottle-fed babies are more often thumb-suckers than are those who are breast fed—this because bottle feeding

does not provide enough sucking exercise, which is especially true when the nipple opening is too large. Too hurried nursing is thought to satisfy the hunger before the sucking muscles have been sufficiently fatigued. Children who are allowed pacifiers rarely, if ever, suck their thumbs. However, the pacifier is objectionable for so many reasons that it should ordinarily be banished from the nursery, although some mothers feel that it has been helpful at some stages of their battles with thumb-sucking.

Too early weaning predisposes to this practice, being further evidence that the sucking mechanism must be adequately exercised; but even in this case the differences in children enter into the picture since not all babies who are weaned early suck their thumbs.

Very often babies do not take up thumb-sucking until teething time, when they begin in earnest. In these cases a rubber teething ring will often prevent the formation of the habit.

Solitary children, those who do not associate with others of their own age, and unwanted little folks often take up this practice, which seems to comfort them and to compensate for their loneliness and isolation.

The thumb-sucking of children of the toddling age is often due to shyness, boredom, undue weariness, or thwarting. The shy child will very often revert to the practice when embarrassed.

Persistent thumb-sucking may be, and sometimes probably is, the by-product of unwise discipline. When a child's thumb is violently jerked out of his mouth to the accompaniment of angry words and great agitation, he is so impressed that he is likely to form a thumb-sucking complex, which is further built up by relatives' and neighbors' repeatedly calling attention to the practice. Often, a child who is not sucking his thumb, upon seeing someone who has been especially severe in disciplining him for doing it, will stick both thumbs in his mouth and begin sucking. Anything that overemphasizes the gravity of the practice is certain to prolong it.

The Freudian theory that this habit is a means of sexual satisfaction is not borne out by the facts. In very rare and unusual cases perhaps so, but in the normal child it has no sexual

significance. Thumb-sucking is not the forerunner of sex perversion, moral depravity, or other serious psychopathology.

2. WHY THE HABIT PERSISTS. Thumb-sucking seems to soothe many children almost as would a drug, and it certainly blocks other stimuli. Thumb-suckers are abnormally indifferent to toys, other children, and even disagreeable and alarming happenings. Fear-provoking situations will make little impression on one of these children if he is allowed vigorously to suck his thumb.

Adults are so much disturbed by thumb-sucking that they give the little folks undue attention, and this confirms them in the practice, for they like nothing better than being the center of the stage.

When a thumb-sucking child finally gets the idea in his head that his mother is really concerned about the practice, he sometimes decides that in this habit he has a means of punishing her for the scoldings and chastisement he has received, and he does not hesitate to use it.

3. THE TREATMENT. The very best way to treat thumb-sucking is to prevent it, and this can be accomplished in the majority of cases by scrupulous care by mother and nurse to keep the baby's thumbs and fingers out of his mouth during the first few days and weeks of life. But having failed in this, if the habit is formed, definite steps should be taken to help the little fellow overcome it.

In any program that is made it is vitally important that the entire family agree. There must be no conflict of opinion as to what should be done. Another thing, all planning for his treatment should be done out of the child's hearing, and the practice should never be discussed in his presence, for this always makes it worse. Many cases have been lessened or completely cured by refraining from mentioning the matter before the child.

Treatment of this habit must embrace treatment of the whole child and must depend on the little fellow's age and the cooperation he gives, as well as upon whether this is one of several behavior problems or an isolated misdemeanor. Further, in dealing with the thoroughly neurotic child, restraint is

worse than useless, for it stimulates indulgence in the practice. In these cases the basic nervousness must be treated before anything can be done about the thumb-sucking.

The provision of substitute activities⁷ is an important measure. Parents should plan to keep the little fellow's hands so busy with picture books, toys, and manual occupations that he will forget to put his fingers in his mouth. When he starts to do this, put a wooly or hairy toy into his hands but do not refer to the thumb-sucking. Since he is less likely to suck his thumb when with other children than when alone, nursery school is very helpful.

Fathers and mothers should set in operation activities which will not only compete with thumb-sucking, but which will suit the child better. The most important attitude is to show no interest in the habit in his presence; and on no account should it ever be called, or even thought of as, good or bad. It is not a moral problem.

If children get definite satisfaction out of thumb-sucking, something less objectionable should be found to take its place. Again, if the pleasure can be taken out of the practice, it can often be cured. This may be accomplished by setting aside a forenoon for work with the child. After breakfast, sit down by his side and begin by forcibly holding the thumb of his right hand in his mouth for one or two minutes and then, after a minute's rest, hold the thumb of his left hand in his mouth for the same length of time. After another short rest, put his right thumb in his mouth again, and so on for half an hour, after which rest for twenty or thirty minutes. Then repeat the program for another half-hour. This often takes the pleasure out of thumb-sucking and has quickly cured many difficult cases. This radical treatment should be regarded as one of last resort with spoiled, willful, or moderately subnormal children, rather than as one that should be given ordinary cases.

Putting pocket mitts on the hands is the mechanical treatment most often employed. They are made of unbleached muslin to begin with, after which rougher and rougher material is used until something is found that is so irritating to the mucous membrane of the mouth as to discourage the prac-

tice. With many children even this does no good as they even learn to suck the mittens.

Aluminum mitts have not proved successful in the more obstinate cases, while taping the fingers and mechanical restraint rarely accomplish anything. These measures center the child's attention on the habit and arouse in him an unwholesome hostility toward his parents that hinders his cure. Only if the youngster wants to overcome the habit and simply needs a reminder are these methods of value.

This is equally true of rubbing aloes or other bitter substances on the fingers. Rapping the fingers sharply with a pencil may help during the day when the child can be supervised, but this treatment cannot be carried out at night. Scolding and nagging are just a waste of time and words. With older children an appeal to pride is most effective.

If parents' attitude toward thumb-sucking arouses overmuch shame in the child's mind, or if he rebels at too severe treatment or unwise punishment, he is very likely to form other bad habits, from masturbation to temper tantrums, as substitutes for this practice.—W.S.S.

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TIME SAMPLING TECHNIQUES. The time sampling technique may be defined as the systematic recording of a definitely delimited unit of behavior described in terms of action over a stated time interval yielding quantitative individual scores by means of repeated time units. A formal use of the time sampling technique includes (a) observation by an eye witness or camera, (b) a definition of the behavior to be observed, (c) observation of the defined behavior for an individual or group for a stated time unit, usually short, (d) a stated number of repetitions of the

time unit employed, and (e) an individual score based upon the number of time units in which the defined behavior occurs, or the total frequency of occurrence of the defined behavior in the total observational time, or the average frequency of the defined behavior per unit of time.

The time sampling method attempts to apply to observational studies certain of the characteristics of scientific inquiry validated for other areas of quantitative measurement and study. The method makes use of units of behavior often in a somewhat artificial sense, the criterion employed by the observer is usually based on action, and in some instances the observer is allowed to synthesize impressions. The observation is usually directed at an individual, but it may be directed at his social stimulus value determined by the observation of reactions of others to him. The units employed for observation frequently are placed in categories when the unity of the data justifies it and the simplicity of a coarser grouping appears to be desirable.

The time sample is usually defined as a constant length of time employed for each discreet observation of the defined behavior. In typical studies, the sample has been one, two, five, or ten minutes. The samples are usually distributed so as to be representative of time of day, month or year, the activities engaged in, or to give a systematic variation of the order of observation for members of the group.

Various controls of the observer's attention are employed by directing observation toward the individual, the group, or by systematic scanning. Recording is usually simplified by tallying, counting, graphic, or photographic devices.

Since the conditions of observation affect the emergence of the behavior to be observed, the physical frame, social setting, subjects, time of day, experimental variables, and position of the observer are usually described in detail.

Because of the relatively large amount of systematic labor involved, time sampling techniques have been largely confined to research investigations. They are particularly applicable to the study of individual differences and the incidence of various types of behavior, and have been used for the study of pro-

cess, or the succession of events in the behavioral sequence. While the results of investigations in approximately forty to fifty areas are of interest to a person concerned with guidance, he will seldom receive or obtain time sampling data as a part of an individual record for a child with whom he is working. The informal journal record or other observation he does obtain, however, may be viewed profitably from the point of view of the extent to which such records meet the criteria of scientific observation developed in time sampling studies.—W.C.O.

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TOILET HABITS. In training young children for the toilet, it is important to remember that building good habits requires understanding of goals, planning a habit training program and carrying on a program with infinite patience. Before it is possible to establish a routine for toilet training, the person taking the responsibility should know what she is working toward, what to expect in achievement from time to time, and how to proceed in building habits of urination and defecation.

What, in general, can be expected in standards of achievement for toilet habits? Any efforts to interpret the literature are quite discouraging, since most authorities indicate when habits of urination and defecation should be established, but fail entirely in explaining what is meant by "established". In analyzing the progress which is made from babyhood to childhood, it is very obvious that certain stages are necessary before a child reaches complete independence. What, then, are these stages? We find: 1. The mother takes complete responsibility. 2. The child takes partial responsibility by merely signifying a need. 3. The child still takes partial responsibility but to a much greater degree, and not only does

he indicate a need, but he may also help to a degree with his clothes or with flushing the toilet. 4. The child now takes complete responsibility by not only knowing when he needs to go to the bathroom, but also by being completely independent in handling his garments and flushing the toilet. Actually, then, there are four steps in building toward complete independence in toilet habits. Rarely, however, do authorities indicate to which stage they are referring when placing an expected age for the establishment of either bowel or bladder control. These ages, moreover, are often placed so low that it is very obvious that complete independence could not possibly be indicated.

John E. Anderson quotes The White House Conference material on toilet training as follows:¹

Bowel Control				
1 yr.	2 yr.	3 yr.		
67%	91%	99%	Girls	
60%	89%	98%	Boys	
Bladder Control				
48%	81%	95%	Girls	
38%	79%	95%	Boys	

This would indicate that most children have established bowel control by two years of age and bladder control by three years of age. Undoubtedly, this does not mean that the child has attained complete responsibility, but rather that he no longer has accidents, which is quite different.

Miss Elizabeth Sutton's effort to compile as many authoritative sources as possible finds some agreement, but equally great discrepancies. What authorities recommend does not necessarily agree with the findings from research studies (of which there are few). Her conclusions suggest the following expectations in achievement for bowel control:² shared responsibility is recommended from three to four years whereas research indicates children should be completely independent from three and a half to four years. For complete day control of bladder the recommendations suggest this accomplishment should be achieved from four to four and a half years of age. Research studies show complete control by the child from three and a half to four years. For independent night bladder control the recommendations sug-

gest four to four and a half years while research shows this was accomplished from three and a half to four and a half years. We would be justified in assuming, then, that habits of both bowel and bladder control should be satisfactorily established during the early preschool years.

Since we know children will be learning toilet habits at an early age, it becomes rather imperative, does it not, to guide and supervise them carefully. Just how and when such a program should be planned and executed would depend on many related factors in the home such as: the amount of housework the mother has to do and how much time she can allow for the baby, the physical condition of both baby and mother, the attitude of the mother in her willingness to stay with the training over a relatively long period of time. (There is no need to start early with a baby, only a few months old, and then discontinue later).

When it is advisable to start training varies considerably, depending on the authority. Suggestions for age at which to begin bowel training fluctuate from four weeks to "before twelve months". For bladder training the recommended age to begin is even more variable and extends from three weeks to 18 months. It is readily understandable why mothers may often wonder whether or not they are doing the right thing. The suggested ages to begin training, although they were scattered rather disturbingly, did show some convergence of opinion, however. The age most often suggested for the onset of bowel training was three months, for bladder training somewhat later, from six to twelve months.

It is, quite naturally, easier to train for bowel than bladder control since a baby does not defecate nearly as often, and consequently it is much easier to observe his rhythm and try "to catch him on time." Most babies have from one to three bowel movements a day, whereas they need to urinate two or three times an hour. By the time a child is from eighteen to twenty four months of age this is reduced to once every thirty or forty minutes, and from five to six years of age only once every two to four hours.³ It might be well to remember, also, that there is a sex difference in bladder size early in life in favor of the girls. For this reason, boys

will need to urinate somewhat oftener than girls.

How, then, should a mother proceed with the toilet plan? The goals have been established, also the age for beginning of training has been suggested. The first thing to do is to try and accumulate a record of the child's natural bodily processes. On the basis of this record, then, the mother can begin a training program by trying to keep a baby from wetting or soiling his diapers by placing him on a pottie just before he would be expected to void or defecate. In working with a young baby, under six months of age, it is possible to keep him comfortable and also give him the necessary support if he is placed on the pottie and held on the mother's lap. After the baby can sit alone well, without support, (usually between six and nine months of age) he can be placed on a toilet chair or on a toilet seat which fastens on a regular toilet. Which of these devices is best depends on family convenience (size of bathroom, etc.) and also on the construction of the equipment. A child should be comfortably seated, securely placed, and have access to both a back and foot rest. As children reach two years of age some of them can use the adult toilet, without a special seat, if there is a platform or a block on the floor in front of the toilet. It is well to toilet a child in the same place. If a toilet chair is used, don't one time move it into the kitchen, another time into the bathroom or bedroom. Decide where it is to be used so that the child will eventually learn the place. When a baby is placed directly on a pot, it would be well, on cold days, to have it warmed in order to avoid chilling him, and maybe establishing an uncomfortable, unpleasant association.

In addition to the physical factors just mentioned, certain psychological components are important in establishing satisfactory toilet habits. Perhaps one of the most important is the attitude of the mother herself. She should expect the baby or the child to be successful. She should be quiet and calm and free from any exertion or pressure and tension which the child might feel. She should remember to praise successes, ignore failures, and hesitate to punish for occasional accidents, which will happen throughout

the preschool years. Too often children are punished for having wet panties, when actually they haven't yet been trained. It is desirable for the baby to be trained by the same person, and that she try to be consistent in her handling of the child, as well as punctual and regular from day to day. It is helpful, too, for the child to get the idea that this is a necessary bodily process to which he must attend at the time. Giving children toys to play with defeats this purpose. Likewise to place a child on the toilet for a very long interval merely means that he will soon forget why he is there. How long he should remain seated is a controversial matter. One authority says from three to five minutes, while another suggests twenty minutes. It would seem the three to five minute period would be plenty long if a child is to remember what he is doing.

In addition to the physical set-up and the psychological influences, both of which are important in a habit training program, it is well to keep alertly aware of a child's physical condition. Difficulty in training for control, or perhaps a relapse after controls were well established, might be due to physical as well as psychological causes. Among the physical factors to check are: malnutrition, illness, and possible ill-effects of past diseases, anemia, local irritation, etc.

Also related to the establishment of toilet habits are the garments a child wears. With a little baby in diapers, for whom the mother takes entire responsibility, this is of no particular concern. However, as children grow older, it is of real importance. Children can walk better in panties than in diapers. By walking age, approximately fourteen months, a child should be sufficiently well trained so that the mother can keep him dry most of the day. This is a good time to transfer to panties, particularly with the explanation that they are to be kept dry. As a child advances in age his independence in the bathroom will be determined not only by the guidance he has had, but also by the ease with which he can manipulate his clothes and get to the toilet in a hurry, if necessary.

About the time night control is established would be a good opportunity for transferring a child from a baby bed

to a junior bed because, here again, it is possible to emphasize achievement. A child now keeps his bed dry so he may have a new one, a big one. It might offer an added stimulus for the child to be successful.

Toilet habits, then, are determined by the home in which the child grows up, by the toilet provisions which are made, by the way he is handled, by the attitude of those who help him, and by the way he is clothed. They should be established early in life, and are essential to the best welfare of the individual. For that reason it is important for people to recognize that toilet training should be thoughtfully and carefully planned as an integral part of the training program of a baby and preschool age child.—R.F.S.

¹ Anderson, John E. *Happy Childhood* (New York: D. Appleton-Century Co., 1933)

² Sutton, Elizabeth L. *Achievement Standards in Habit Formation for the Preschool Child*, unpublished. M. A. Thesis, June, 1942.

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TOYS. How important are toys in the lives of young children? They are as important as our attitude toward play. It would be difficult to find a better philosophy of play than is expressed in this excerpt. "The child who is playing all day long, is not wasting his time. He is busy educating himself. He learns to do by doing, by experiencing, by making mistakes. His greatest interest is to explore, to handle, to find out about things and what is to be expected of them. During this process, he is also building in habits of feeling, thought and action that will ultimately determine his personality."

Play, then, becomes an all-important source for the learning of young children. If they are to benefit to the utmost through play opportunities, children must have some place to play, some place to keep toys, someone with whom to play and, perhaps most important of all, something with which to play.

How is it possible to know when a child is provided with adequate toys? There are various classifications of the educational value of play materials. It does not matter particularly what categories are used, or what terminology. What does matter is—whether the child is given some play materials representative of all the areas in which he

should be experiencing growth.

How might these necessary growth areas be described? Let us use the following classification. 1. large motor, 2. manipulative, 3. creative and constructive, 4. dramatic. Suppose we list some toys under each of these headings which all preschool children should have. It might be well, in this connection, to remember that preschool children, regardless of sex, enjoy the same play materials, when given an opportunity to choose, according to Dorothy Van Alstyne. Some recommended toys for young children would be:

1. **LARGE MOTOR:** tricycle, wagon, walking boards and ladders to climb, swing, teeter-totter, floor blocks for building, designed on a numerical scale so they will eventually fit, as the child works with them.

2. **MANIPULATIVE:** large wooden beads, peg boards (round, square, triangular, etc.) picture puzzles (limit the number of pieces, and the difficulty of fitting), form boards of various shaped blocks and of animals or familiar figures, graduated insets, colored cones, and matching games of simple familiar objects.

3. **CREATIVE AND CONSTRUCTIVE:** large crayons, beginner's pencils, rounded scissors, manila paper, and even larger sheets of unprinted newspaper, paints (such as show card type, which are washable), paint brushes, water clay, as well as sand and sand toys, a work bench or substitute, together with scrap lumber, large headed nails, a hammer and saw. Creative experiences are not complete without music and literature. If there is a victrola in the home, records can be selected for building a child's musical appreciation. His sense of rhythm is encouraged by the use of simple time-keeping devices such as a drum, a pair of cymbals, a tambourine, or perhaps some bells or a triangle. He should also hear stories and poems which are on his level of understanding. They will, of necessity, need to be simple, short, and deal primarily with his limited immediate surrounding. Alice Dalgliesh's, book, "First experiences with Literature," would be especially helpful in the selection and presentation of literature to young children.

4. **DRAMATIC:** play is encouraged particularly in a housekeeping unit,

where a child can imitate the activities he observes in his own home, and as he reaches the older preschool years, elaborate and touch up these activities with his own imagination. Particularly enjoyable for dramatic play are: a broom and dust pan, perhaps a carpet sweeper, too, a doll buggy and an unbreakable doll, doll clothes and blankets, a doll bed (large enough and substantial enough for the child to get in himself). Other toys would be kitchen cooking equipment, and an unbreakable tea set. If finances permit, such additional features as a stove, ice box, dining room cabinet, and bedroom chest of drawers would be assets. Also to be included among the dramatic toys are: wooden animals, wheel toys (such as wooden trains, boats, trucks, busses, and airplanes).

It is exceedingly important to remember that the way a child uses his toys depends on their accessibility, whether he is allowed an unbroken time interval for play, and where he can play. None of the above-mentioned play materials are necessarily either outdoor or indoor toys. Where they are used, and how they are used is determined by the climate, the space distribution of the home, and the availability of a yard. It would be desirable, of course, for young, fast-growing children to have a maximum of fresh air and sunshine. Where climate permits outdoor living almost the whole year around, however, caution should be taken to give a child experiences with other materials, in addition to large muscle. Or, in contrast, for those children who live in city apartments, or where long periods of extreme cold are experienced, there may be a tendency to limit, too much, a child's physical activity, since he needs to be inside. Let it be remembered, then, that all preschool children need experiences with all four categories of play materials.

In the selection of an appropriate toy, the following criteria are suggested:

1. **IS IT SAFE?** Is there danger of breakage, are the corners rounded, are there no sharp edges, will the toy fall apart readily? In the case of a young child (who may still put toys in his mouth), were vegetable dyes used in the paint, may he swallow fuzz from a teddy bear, or get particles of hair

from a doll's head in his mouth?

2. IS IT ATTRACTIVE? Will the child enhance his artistic appreciation through acquaintance and use of this toy? How is it designed, constructed, and finished? If painted, are the colors attractive?

2. IS IT HYGIENIC? Can soap and water be applied periodically, or can the toy be cleaned some other way? Does it have a smooth surface, free from unnecessary accumulation of dust and lint particles?

4. IS IT DURABLE? Can the toy withstand the unintentional banging, pushing, and overweighting it might receive at the hands of some novice? Is it solidly constructed, sturdy and steady?

5. IS IT SIMPLE? Is it free from unnecessary trimming and decorations? Can it be used easily and readily by the child himself, and without adult help and supervision?

6. IS IT SUITABLE IN SIZE AND SHAPE? Is the toy neither too large nor too small for the child to use with satisfaction and comfort? Is it light enough in weight for him to handle (a tricycle, for example)?

7. IS IT READILY ADAPTABLE? Can the toy be used in a variety of ways with a variety of other toys? Does it possess qualities which will make it a usable toy over a long period of time, for years, perhaps?

8. IS IT CHALLENGING? Does the child find stimulation and a desire for constructive play on his own level of development, or is it too advanced for him to enjoy? Does it stimulate interests and activities?

After a toy has been found to meet, at least some of these requirements, preferably all of them, it would be well to remember the most important consideration is what the child learns through his play opportunities. He needs to grow in all four areas, large muscle, manipulative, creative and constructive, and imitative and dramatic, but he needs also to learn among other things: how to play with children, as well as alone, how to share, to take turns, to be sympathetic, and understanding and courteous. He needs to learn habits of concentration, habits of neatness and orderliness. He needs to learn how to care for his toys, and how to use them constructively. He needs, through his play, to gain increas-

ingly more information about the world in which he lives, so that in the slow process of growing up, he will always have his place in the procession of life, and will always have many and varied interests to fulfill.—R.F.S.

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See: PLAY, PLAYROOM.

TRANSFER OF TRAINING. To what extent does training in one kind of work bring about improvement in other kinds of work? What is the nature of the transfer of training, that takes place? Answer to these questions would be of very great importance in the school, in business, and in life in general. The doctrine of formal discipline implies that the functions of mind operate like muscle fibres and become strengthened and toughened by mere use. It holds that training of the mind is generalized and that training in reason-

ing and forming judgments in a job like salesmanship will spread to such functions as are involved in engineering and operating a farm or a nursery for young children.

The doctrine stems from certain fundamental assumptions, one being that mind is composed of faculties, such as perceiving, memorizing, reasoning, judging and willing. As functions coming within the scope of each of these faculties are utilized, they develop efficiency which is applicable to many different situations. Another assumption is that the disciplinary role of education has grown directly out of the system of faculty psychology. Finally, it is assumed that there is an ethical principle involved, namely, that the performance of a task which is arduous is by mere virtue of its difficulty valuable in the training of the individual.

Applications of the theory of formal discipline are observed particularly in prescribing courses in colleges for degrees. The value of the classical languages, mathematics, and to some extent the sciences, has always rated high because of their alleged disciplinary value, aside from the specific uses to which they may have been put. Therefore, in many colleges even today these courses continue to be required for graduation regardless of the program in which the student may be interested. Strength of the argument favoring such courses, however, has waned considerably during the past half century. In the first place, common observation indicates that there is a definite limit to which the classical scholar can solve problems in sociology, the mathematician problems in mental health, or the scientist problems in economics, merely as the result of training in his respective field. Secondly, the contributions of the physiological psychologist, such as K. S. Lashley, provide no support for localization of faculties in the brain. Lastly, a direct experimental attack on the validity of the doctrine of formal discipline gives results which are negative.

James (about 1900) made the first study of the problem, the purpose being to determine the influence of practice in memorizing selections from certain poems upon the learning of selections from other poems. Some of the subjects showed a slight improvement in the

second learning activity, while the others showed a slight decrease. On the whole the influence proved to be negligible. Although the method used was inadequate, the findings were so significant that numerous other studies of a similar nature followed. Thorndike correlated the growth in general intelligence of high school students during the period of a year with achievement in their school subjects during that year. There was no marked evidence of general spread of improvement in the courses to the growth in general intelligence. What little evidence there was favored the physical sciences rather than any of the languages or mathematics. These results do not argue against the value of general education or against the possibility of some transfer. In fact, they do not argue against the value of the classics or mathematics. They merely indicate that integrations in the study of high school subjects do not have anything like universal application.

Summaries of the experimental studies of transfer, such as that by Orata, indicate that generally some degree of transfer does take place. In some instances it is positive, the original learning facilitating the acquisition of integrations in a new activity. In others it is negative, making the new activity more difficult than if no training at all had been given. The latter effect is called retroactive inhibition, a phase of forgetting. The degree of transfer depends upon a number of factors, such as the methods of learning, the breadth of the determining tendency or motivational factor under which the learning activities are unified (probably the most important factor), the degree to which the material is learned, and the intelligence of the learner.

The answer to the question as to what is the nature of the transference can not be given in final form, although some experimental data on the problem are available. According to Thorndike, the basis for the transfer is identity of the elements in the two situations. the greater the degree of identity the greater the amount of transfer. Judd holds that transfer is effected to the extent to which the experiences gained or principles formulated in the first activity can be generalized and made to apply in the second activity. Ruedi-

ger and Bagley find that transfer follows if the results of the learning can be reduced to a system of ideals. For Hoisington, the integrations developed in one activity may function in a second one because of the similarity of the determining tendencies prevailing in the two situations. Identity of elements is present in neither the situations nor the specific reactions to them. Likeness of the determining tendencies is what produces the likeness of responses. There are many phases of life which are related and can, therefore, be brought within the scope of similar determining tendencies. Hence, transference in varying degrees can and does take place.

Training in a subject like Latin requires a set of rather specific determining tendencies and will transfer to other functions, primarily of a language nature, where the specific determinations are familiar. But this does not hold for situations in which the determinations are dissimilar.

As a general rule, training in complex situations provides a better basis for transfer than in simpler ones.

—M.O.W.

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See: CONDITIONING, LEARNING.

TRANSCERENCE. A special case of the inclusive dynamism of "displacement" (The term dynamism is quite generally

employed today in place of the term mechanism). Displacement, a dynamism very common in the dream structure, is best described as the process by which one idea may surrender to another the whole volume of its cathexis; according to Jones, it is "the replacement in the effective life of one idea by another".

The term transference has been used in one sense to denote the shifting of feelings of love from one person to another.

In its more specific sense it refers to the physician-patient relationship which is the indispensable condition for a psychoanalytic therapy. At the height of this relationship there ensues what has been termed a "transference neurosis", the development of which, to a greater or lesser degree, is indispensable for a successful analysis. E. Glover describes this artificial neurosis as follows: "A stage (in analysis) where the history of the patient's development, leading up to the infantile neurosis, is re-enacted in the analytic room, the patient playing the part of actor-manager, pressing into service (like the child in the nursery) all the stage property that the analytic room contains, first and foremost, the analyst himself". He adds, "The conscious conviction through mental experience of the reality of the infantile Oedipus in all its strength and horror, this can occur nowhere else in human experience".

Alexander distinguishes three phases of the transference neurosis, (a) primary transference, infantile intimidation giving place to trust in the analyst, with diminution of neurotic fear; (b) negative transference, hate dares make its appearance, the analyst becoming the target; (c) secondary positive transference, the negative transference neutralized or erotized (Quoted by Healy, et al). Thus taken in its narrower sense, transference denotes the deep affective (love and hate) drama which is enacted in the psychoanalytic room in which the analyst, not unlike a projection screen, offers himself as the object upon which is directed a sampling, at any rate, of the most deeply felt experiences in the life of the patient, the remembered as well as the repressed. The importance of a strict detachment and objectivity on the part of the analyst, at any rate during the

more intense phases of the transference, is obvious, and all authorities emphasize the importance of counter-transference problems in determining the destiny of a psychoanalytic therapy. So much for a mere definition of this important psychoanalytic dynamism. A full exposition of this still very obtruse subject is impossible here.—B.G.

TRUANCY. The term "truancy" usually is regarded as not being synonymous with "running away," but is employed to describe prolonged absence from school without the knowledge of parents or guardians. Truancy per se is not considered serious, but it often leads to delinquent behavior. The child's feeling of freedom from restraint, his sense of guilt, and the fear of being apprehended, may cause him to seek undesirable hideouts and to join gangs that participate in anti-social activities.

Truancy is attributed to numerous causes, most of which involve fundamental educational and social conditions, e. g., the child's dislike for school, unwholesome home situations, or excessive distances from school, as in rural areas. The child may have insufficient intelligence to comprehend and do the work expected of him in school, or he may be so superior intellectually that he is bored and makes no effort. He may dislike the teacher, think that she has a grudge against him, or he may receive low marks and fear that he will not pass. In some cases also, he may be ashamed or embarrassed by shabby or ill-fitting clothes. If he is tardy, he may be afraid either to report at school or to return home because of possible severe punishment. Thus, he may use truancy as a means of escape from any of these unpleasant or intolerable situations. When the child employs truancy to express his rebellion against parental domination, to get even with or to punish someone, or to seek adventure, then it probably is a symptom of emotional instability. Some parents may contribute to a child's truancy, also, by insisting that he go to work, or by their indifference, ignorance, or antagonism toward the school.

The school's policy toward delinquents has changed from one of coercion to one of understanding the child, and the old-fashioned truant of-

ficer has been replaced by a well-trained and sympathetic attendance officer, visiting teacher, or school nurse. Their services are often implemented by counselors, clinical psychologists, and psychiatrists. There is no standard treatment for truancy, as each case must be considered on its own merits. The school is taking measures to prevent truancy by instituting an elaborate system of child accounting with cumulative record cards designed to follow the child's progress from year to year, and to provide information about his personal adjustments. A school census is made yearly, and teachers are required by law to keep accurate attendance records. In addition, a careful check-up is made on children who transfer from one school district to another. Serious attention, also, is being given to the adaptation of the school to the child's needs, abilities, and interests through the revision of pupil reports and marks, promotions, establishment of special classes, more challenging methods of instruction, and the election of understanding and emotionally well-balanced teachers. Parent-Teacher Associations have been of considerable assistance in supplying clothes, necessities, and scholarships to children from needy families, and Home Room Mothers have served as a valuable liaison between home and school. Progressive systems, also, are providing more adequate health inspection, better medical facilities, and are acquainting the parents with the functions and nature of the modern school through their public relations programs. Better transportation is being provided and many rural schools are being consolidated.

Some school systems have sought to punish truants by placing them in detention homes where no educational facilities are available. Others have sent them to disciplinary classes or to truant schools (parental schools) where some educational work, primarily industrial, is given, thus keeping them off the street and away from bad company. The present trend, however, is to determine the child's motives through the case-study technique, and to prescribe and carry out corrective measures which will secure his adjustment to normal school conditions. Where the home is too harsh, dominating, or un-

interesting, the chief remedy may be found through the provision of some new adventure or legitimate thrill, such as summer camps, or properly supervised excursions.—F.K.M.

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TWINS. Twins are of two kinds, one egg or uniovular and two egg or binovular. All boy-girl pairs are binovular. It is not always easy to decide whether twins of the same sex are one egg or two egg, but in the large majority of instances a diagnosis can be made on the basis of striking similarity or marked dissimilarity. In uniovular twins the hair color and texture, the skin color and texture, the eye color, pattern of the iris, ear shape, shape and arrangement of teeth are markedly similar. Head shape, location of moles, height and weight may vary. The finger prints are more nearly alike than the prints of the two hands of one individual. Handwriting is not the same in one egg twins. About 15 per cent of these twins are left handed as compared with 6 per cent in singletons.

One egg twins continue to be strikingly similar in appearance and personality even when brought up in different localities, although the similarity becomes less marked as the twins become older, indicating that environment plays some part.

Twins are often born prematurely and are apt to be below average in weight at birth. The rate of growth during the first year is below average but later it is quite normal. Some studies have shown the intelligence quotient of twins to average less than their siblings. Language development is considerably retarded.

In the United States one delivery out of 98 is a twin-birth among the white race, one in 70 among the Negroes. About 25 per cent of twins are one egg. Just as there are more males born

in the general population, so there are slightly more boy-boy twins born. There are a few more opposite sexed pairs born than same-sexed pairs.

No particular emotional patterns exist in twins and no specific behavior problems. Sibling jealousy is only rarely seen. Considerable mutual dependence exists among many one egg twins. In a few instances one twin assumes dominance over the other.—R.M.B., H.B.

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TYPES OF PERSONALITY. One approach in psychology aims at the determination of general laws of human experience and behavior; another approach centers attention on the individual case. The place of typology falls midway between these two approaches. It takes into account differences between people but aims at generalization also. It divides people into broad classes or types according to the fundamental differences and similarities of their basic personality structure. Typology is more specific than general psychology but more generalized than the study of the single case. There have been numerous attempts to classify human beings into types. Here only the main systems of typology can be briefly presented.

HIPPOCRATES' TYPES.—Hippocrates distinguished four types of temperament: choleric, melancholic, phlegmatic and sanguine. These terms are derived from the Greek names of the four body fluids—yellow bile, black bile, 'phlegm,' and blood—which, according to the physiology of the time, were considered to be the basic "humors" of the body. The choleric person is one who is easily excited to anger; the melancholic is a sad person with a pessimistic outlook on life; the phlegmatic is a dull, slow and apathetic individual; the sanguine is of a vivacious, enthusiastic and optimistic nature.

JUNG'S TYPES.—One of the most

widely known typologies is that of the Swiss psychiatrist, Carl G. Jung. First, he distinguished between two broad categories: The extroverted and the introverted types. A person's interests, attitudes and their mental activities may be primarily influenced by and directed toward the objects of the outside world (extroversion) or else towards his own self (introversion). His psychic energy, his libido, is directly either outwardly or inwardly. The extroverted type ascribes greater value and significance to external objects and circumstances, with a corresponding devaluation of subjective factors. The extroverts are open, sociable and accessible. Exactly the opposite is true of the introvert. The introverts are taciturn, impenetrable and often shy. The moral law for the extrovert coincides with the corresponding claims of society, that is, with the generally accepted moral point of view. He tends to do what his nearest surroundings need and expect from him. The introvert has more individualized standards of conduct.

Extroversion and introversion, according to Jung, are present in every person, but one of the two attitudes usually predominates. "If this condition becomes in any way chronic, a type is produced, namely, an habitual attitude in which the one mechanism permanently predominates." (1, p. 13) Since, however, in every person both "mechanisms" are present in varying proportions, "pure" types can never occur.

Jung terms extroversion and introversion as "general attitude types." Each of the general attitude types is then further subdivided into four "function types" according to the prevailing psychological function. Thus Jung obtains eight psychological types. The four basic psychological functions, according to Jung, are sensation, thinking, feeling and intuition.

The 'extroverted thinking type' is dominated by a variety of thinking which is oriented toward objective data derived through the perception of the senses. A person belonging to this type tends to evolve rather rigid formulae and to orient all his life activities and the life activities of others according to his intellectual conclusions. Good and evil, right and wrong, normal and abnormal are judged by the standard of these formulae which are regarded

by the person as universally valid. For this dogmatism there are no exceptions but only imperfections and incidental insignificant deviations. The emotions and other irrational elements are largely pushed into the background. Jung mentions Darwin as a normal, extroverted thinking type.

In the 'introverted thinking type' thinking is also the dominating function, but this thinking is diametrically opposite to that of the extrovert. This type of person has little respect for objective facts and tends to evolve theories from within himself. He may gather facts but never for the facts' sake but rather for the illustration of a preconceived theory. This type of person markedly lacks skill in practical matters of life. He easily lets himself be exploited by others if only they will leave him undisturbed to pursue his ideas. He does not know how to win the favor of his colleagues, and usually only succeeds in showing them how entirely superfluous they are to him. Jung mentions Immanuel Kant as an example of a normal, introverted thinking type.

The 'extroverted feeling type' is far more common among women than men. The prevailing function of this type is feeling but of a strictly conventional variety. One feels as one is expected to according to the prevailing standards of the social milieu. If a woman of this type falls in love, the 'suitable' man "meticulously corresponds in standing, age, capacity, height and family respectability with every reasonable requirement." (1, p. 449) However, contrary to what it might seem, the feelings of such a person are genuine.

The 'introverted feeling type' is also found mainly among women. Such persons appear calm, inaccessible, show an impressive repose, with no desire to influence or judge others. Their feeling is turned inwardly and they abhor outward manifestations of emotion. For this reason they often appear cold to others.

Both in the extroverted and in the introverted 'sensation types' sensory perception plays the predominant role among the psychological functions. Perceptual experiences have two components. One of these components depends on the nature of the object, the other upon the perceiving subject. Prevalence

of the first component is typical for the experiences of the extrovert and prevalence of the second for the experiences of the introverted sensation type.

The 'extroverted sensation type' is an extreme realist. He may be dominated by gross sensuousness, or his strength may lie in matters concerning good taste. He is directed toward those objects which give the strongest and the more differentiated sensations. Ideas or experiences of subjective colorings are foreign to him. He feels at home only in the realm of tangible realities.

The life of the 'introverted sensation type' is centered around the subjective aspects of perceptual experience. Such a person lives in a perceptually rich world, but his perceptions are remote and have little to do with the objective characteristics of the surroundings. Actually, such a person moves about in a mythological world in which the surrounding common objects have highly subjective personalized and often anthropomorphic meanings.

By intuition Jung means a mode of apprehension which functions in an unconscious way. The 'extroverted intuition type' is directed towards the outside world and tends to discover possibilities in the objective situation. He has a "nose" for things which are promising for the future. His interest is occupied with a matter only as long as its promise is fulfilled, and then he turns eagerly toward new possibilities. Merchants, speculators and politicians frequently belong to this type. This type of person is often considered a ruthless adventurer. On the other hand, they have an unusual ability to arouse in people enthusiasm for something new.

The 'introverted intuition type' has a keen eye for hidden connections between the elements of the unconscious. Mystical dreamers and seers, as well as artists and fanatical cranks, are found among the representatives of this type. Such a person is a complete enigma to his fellow man. If he is an artist, his productions are concerned with extremely remote things, often entirely incomprehensible to the outsider.

Each of the types which have been briefly described have distinctive characteristics in respect to the structure

of its unconscious. According to Jung, both general attitudes (extroversion, introversion) and all four basic psychological functions (thinking, feeling, sensation, intuition) are present in each person. Since in a given type one of (extroversion) and all four basic psychological functions plays a predominant role, the other attitudes and the other functions are subject to more or less complete repression and thus they become unconscious. Thus, for instance, the unconscious of the extroverted types in general is characterized by strong, egocentric tendencies. Jung furthermore states that when a person belonging to a given type develops a psychiatric condition, this condition tends to assume a form which corresponds to the psychological structure of his type. Thus, for example, the most common neurosis among the extroverted types is hysteria; among the introverted types, psychasthenia.

Jung ascribes importance to early experiences in the shaping of types, but believes that the type differences are rooted, in the last analysis, in inherited constitutional dispositions.

SPRANGER'S TYPES.—The typology of E. Spranger evoked less response in America than did the typology of Jung discussed and Kretchmer to be discussed soon. Spranger's typology is at a high level of abstraction. His aim is not to describe concrete human beings but "ideal" types. According to this author, a type can be characterized by the person's prevailing value attitude. He distinguishes six main realms of values and each of these types—the theoretical, the economic, the aesthetic, the social, the political, and the religious—is characterized by a more or less exclusive positive attitude toward one of these realms of value.

The highest value for the 'theoretical' type is truth. He is a pure intellectualist. Truth is searched for in objective fashion for the truth's sake and all interests in other values such as utility, beauty, goodness, etc., sink into the background.

The 'economic' type is interested solely in the utilitarian aspects of life. "He sees everything as a means for self-preservation and aid in the natural struggle for existence and a possibility to make their life pleasant" (2, p. 132). He seeks only such knowledge as may

be applied. An object of art has interest for him only insofar as it has money value. "The man is good"—means to him that the man has credit. "God appears (to the economic type) as the owner of all wealth, as the giver of all useful gifts" (2, p. 138).

The 'aesthetic' type is characterized by an attitude which is directed predominantly towards the beautiful. He looks upon life emphatically, contemplating and enjoying it. He has an aversion for conceptualism and is impractical in economic matters. In his religion holiness is replaced by beauty.

In the so-called 'social' type the innermost leading impulse is sympathy and love for other people. Christianity is the ideal religion for this type. The social type has an unusual capacity for identification with others.

The highest value for the 'political' type is power, the domination of other men, knowledge and wealth represent for him values only because they are means to power. All his values are subordinated to the drive for power and domination.

The 'religious' type in his basic attitude is directed toward the experience of a union with the cosmos. The experience of mystic union is his highest goal. He is permanently directed toward the creation of a supreme and absolutely satisfying value-experience.

JAENSCH'S TYPES.—The typology proposed by E. R. Jaensch and his collaborators has undergone considerable change in the course of a brief span of time. The B-type (Basdonoid type) and the T-type (Tetanoid type) referred originally only to a classification of persons who exhibited eidetic imagery. The two types distinguish themselves not only by the kind of their eidetic imagery but, according to the studies of W. Jaensch (brother of E. R. Jaensch), also by a number of somatic constitutional features. The B-type exhibits in a mild form those bodily characteristics which when more markedly present are symptoms of exophthalmic goiter; the somatic characteristics of the T-type are somewhat reminiscent of the symptoms of tetanus. However, these constitutional features are not regarded as signs of illness.

The eidetic imagery in the B-type may arise spontaneously or can be produced by the person at will. These

images appear in the T-type only after the inspection of the actual picture or object. The eidetic images of the T-type are static and cannot be influenced at will. The B-type experiences his eidetic images as something which belongs to his own self, while to the T-type they appear as foreign, disturbing phenomena.

This typology was later broadened out by Jaensch to be applied to persons also who have no eidetic imagery. The B-type became a sub-class of the broader new category of the "integrated type" and the T-type became a variety of the "non-integrated type." The integrated type (I-1) is characterized by a thorough interpretation of his various psychological functions, by a tendency to perceive the world as consisting of meaningful wholes and a general synthetic mental attitude. In the non-integrated type the various psychological functions are to a great extent independent from each other. This type is further characterized by greater objectivity and a generally analytic mental attitude.

Two forms of integration are distinguished by Jaensch: "outward" integration and "inward" integration. There is an intimate contact between the person and the external world in the first case, while such a contact is largely lacking in the second. Jaensch speaks also of a transitional form—the "I-2" type—which is integrated only under special circumstances. Lastly among the integrated types there is a synesthetic (I-S—or S) type exhibiting the phenomenon of synesthesia.

Jaensch's typology is based largely on experimental studies of individual differences in sensory perception, although to a lesser extent emotional, intellectual and other psychological aspects have also been considered.

KRETSCHMER'S TYPES.—The typology of Kretschmer takes into account both physical make-up and psychological characteristics. He distinguishes three main types of physique: asthenic, athletic and pyknic; two types of temperament: cyclothymic and schizothymic.

The typical 'asthenic physique' is characterized by a reduced thickness of all parts of the body. A person who is of the asthenic type is lean, has narrow shoulders, long, narrow, flat chest, with sharp rib angles and no abdominal

fat. The circumference of the chest is less than that of the hips. The extremities are thin, with poorly developed muscles. The skin is poor in blood supply and in secretion. Asthenics look taller than they are. Asthenic women show all the characteristics of asthenic males with the exception that they are in addition very short in stature.

The 'athletic' type of body is characterized by a strong development of bones and muscles. The athletic person is usually tall or medium sized, with a longish head, firm straight neck, projecting, wide shoulders, broad chest, firm abdomen, narrow hips, strong extremities and large hands and feet. There is a very clear muscle relief. The skin is thick and firm. The bony structure is strong and well visible, particularly the bones of the face, the collar-bones and the bones around the feet and hand joints. The athletic type of woman shows similar characteristics, only the muscles are usually not as easily visible as in the males because of the greater amount of fat. The pelvis is often very strongly developed.

The 'pyknic' body features appear in typical form usually only in middle life. The pyknic body is characterized mainly by the large circumference of the head, chest and abdomen, a tendency toward fat deposits about the trunk and a somewhat delicate development of the bony structure and of the musculature. The face is soft and broad. The head, which is carried by a short, massive neck, sinks forward. The shoulders are rounded and pushed forward. The chest is deep-vaulted, broadening out downward and continuing in a large, fat paunch. The extremities are short, rounded; the hands are short and relatively wide. The muscles are only moderately developed and rather soft. The skin is well fitting and smooth.

Kretschmer described several variations of these three body types. In addition to the three main types of physique, he also describes a number of dysplastic types.

Kretschmer found the following correlation between body type and psychosis. The most common type among schizophrenics is the asthenic, although athletics and dysplastics are also quite frequent. The majority of the manic-depressives have a pyknic physique.

This correlation, however implies nothing abnormal about the three main body types.

Persons with a pyknic physique usually exhibit a cyclothymic temperament. They are sociable, good-natured and friendly. Their mood may be cheerful or it may be toward the depressed side; it is often changeable. The psychomotor expressions are smooth and natural.

An asthenic body build goes usually with the schizothymic temperament. Such persons are unsociable, quiet, reserved, serious and often eccentric. Emotionally they are shy and sensitive. The psychomotor expressions are stiff and restrained.

Kretschmer pays considerable attention to the occurrence of the two temperamental types among prominent men. Among poets the cyclothymics are realists or humorists, the schizothymics are romanticists and formalists. Among scientists the cyclothymics are observers, describers, empiricists and the schizothymics, exact logicians, systematicians and metaphysicians. Among leaders of men the cyclothymics are tough "whole-hoggers," jolly organizers, understanding conciliators, the schizothymics are pure idealists, despots, fanatics and cold calculators.

Kretschmer believes that the types he describes are expressions of special inherited constitution.

SHELDON'S TYPES.—Sheldon and his collaborators have derived a classification of the varieties of human physique mainly from a study of 4000 photographs. They found that these photographs could be arranged according to three morphological characteristics: endomorphy, mesomorphy and ectomorphy. These characteristics can be determined by a number of anthropological measurements.

In the 'endomorphs' the digestive viscera are highly developed while the musculature is relatively weak and the bony structures underdeveloped. The bodies of the endomorphs have low specific gravity. Their nutritional state may vary; usually they are fat but even when they are emaciated they retain their endomorphic characteristics.

In the 'mesomorphs' the structures of mesodermic origin—muscles, bones, connective tissue—are highly developed. The mesomorphs have firm, upright, strong bodies of high specific gravity.

The blood vessels are large, particularly the arteries. The skin is thick, has large pores, and is strongly reinforced by connective tissue.

The 'ectomorphs' are long, slender, with flat chest, delicate bones and poor musculature. Since the ectomorphs have the largest surface, their bodies have the greatest sensory exposure to the outside world.

In order to describe the physique of a given person the degree of presence of all three characteristics has to be determined. This is done by rating each of the characteristics on a 7-point scale, 1 being the lowest and 7 the highest rating. The "somatotype" of a person is expressed then in a shorthand fashion by three numerals of which the first refers to the degree of endomorphy, the second to that of mesomorphy, and the third that of ectomorphy. Thus, for instance, "7-1-2" refers to a physique which exhibits endomorphic characteristics in the highest degree with the possible lowest degree of mesomorphy and a somewhat greater but still quite low ectomorphy.

The basic characteristics of temperament which correspond to the three above-mentioned components of physique are called 'viscerotonia,' 'somatotonia,' and 'cerebrotonia.' The life of the viscerotonic individual is centered around the gut. The life purpose of the somatotonic is action and power. The cerebrotonic is "hyperattentional" and is characterized by the predominance of the inhibitory functions of the cerebrum.

Sheldon determines a person's temperament by rating him with regard to 60 traits on a 7-point scale. He uses as a symbol of temperament—analogueously as he does with physique—three numerals which refer to viscerotonia, somatotonia and cerebrotonia, respectively. The 60 traits fall in three equal groups according to the components of temperament. The traits have been so selected that each has a positive correlation of at least $+0.60$ with every other trait in the same group and a correlation of at least -0.30 with every trait of the other two groups. The following are some of the traits used by Sheldon:

Viscerotonia: Relaxation in posture and movement, love of physical comfort, love of eating, love of polite ceremony, indiscriminate amiability, greed

for affection and approval, deep sleep, relaxation and sociophilia under alcohol, need of people when troubled, etc.

Somatotonia: Assertiveness of posture and movement, love of physical adventure, love of dominating, lust for power, claustrophobia, Spartan indifference to pain, over-maturity of appearance, assertiveness and aggression under alcohol, need of action when troubled.

Cerebrotonia: Overly fast reactions, love of privacy, self-conscious motility of the eyes and face, sociophobia, agoraphobia, hypersensitivity to pain, poor sleep habits, chronic fatigue, resistance to alcohol and to other depressant drugs, need of solitude when troubled, etc.

Sheldon finds correlations in the neighborhood of $+0.80$ between morphology and the corresponding features of temperament.

Considerable literature has been developed about the various typologies. The claims, particularly those of Jung and Kretschmer, have been checked by numerous investigators. There is no general agreement as to the validity of these typologies and the whole matter of type is still a controversial issue. Some authors, for example G. W. Allport, seriously question the validity and usefulness of the concept of types. The majority of investigators, however, admit at least a limited utility of the typological approach.—A.A.

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See: CHARACTEROLOGY, PERSONALITY.

U

THE UNCONSCIOUS. The introduction of the concept of the Unconscious constituted the basic differentiation between pre-Freudian and post-Freudian therapy and practice in the fields of Psychopathology and Psychotherapy. It is the basis of the theoretical and clinical characteristics of Psychoanalysis in its general cultural and in its more restricted clinical applications in the treatment of certain forms of psychological disorders of personality. We shall not discuss here the various theories of the "Unconscious" which are the concern of systems of philosophy or of academic psychology. These are fully covered in Northbridge's "Modern Theories of the Unconscious".

Although the concept of the "Unconscious" was not formulated by Freud with any degree of completeness until 1915, it was utilized as a working hypothesis in the earliest days of collaboration between Freud and Breuer when they established that hysterical symptoms were the derivatives of unconscious memories. This brings us directly to the subject of the "content" of this hypothetical reservoir, or the aspect, if you prefer, of the personality. We have already mentioned "forgotten memories" as one of its constituents. Through a deliberate or unwitting dynamic process of "repression" (one of the keystones of psychoanalytic therapy) perceptions which were at one time in consciousness, or which were not intense enough to reach consciousness (subliminal), are relegated to the Unconscious and thus removed from conscious awareness of them.

For a considerable length of time psychoanalytic investigation and clinical utilization of the repressed content of the Unconscious concerned itself with childhood sexual impulses and phantasies and the unconscious was spoken of

as predominantly infantile. This was later further corroborated through the study of the dream, the characteristics of which were found to be of an unmoral, unsocial, egocentric nature and governed by the pleasure-pain principle, or features which characterized the life of the infant. The important practical implications of these findings were: the discovery of their existence in unmodified form in the Unconscious of the adult, and their apparent undiminished capacity to influence the attitudes, feelings and behavior of the adult without any awareness of their existence. This vast reservoir of hidden and latent sources of motivation, feeling and action, which like the submerged part of an iceberg allegedly constitutes by far the major portion of what we know as mind, is not limited in its content to repressed, but once conscious, material. It is also the repository of what might be termed the "life of instinct" of the biological and cultural evolutionary history of man.

According to Jung, the Unconscious is composed of two aspects or levels, the personal and the collective. He diverges from Freud's viewpoint in minimizing the importance of repression and in stressing the collective or superpersonal Unconscious. He states: "In every individual there are present (besides his personal memories) the great 'primordial images', those potentialities of human representations of things as they have always been, inherited through the brain structure from one generation to the next". As to the origin, nature and qualities of the Unconscious, much still remains that is obscure. The very existence of an "Unconscious" in the psychoanalytic sense is still questioned by some authorities in philosophy and psychology. In support of its existence there is the undeniable fact of the car-

rying out of post-hypnotic suggestion carried in the Unconscious; the demonstrable evidence of the latent content and meaning of dreams; the common slips or errors of memory, speech and action which upon analysis reveal latent motivations; the undeniable fact established by a great number of clinicians that various mental and physical symptoms are found to have their foundations in hidden mental life and often can be made to disappear when these hidden sources of the difficulty are brought into consciousness. According to Jones, the splitting of the mind into the conscious and unconscious regions takes place in the earliest part of childhood life, probably in the first year, and this splitting is the result of the conflict between the uncivilized and unmoral endowments with which we are born and the inhibiting forces. These non-moral childish impulses, since they cannot obtain any direct outlet, reach out and grasp certain experiences, even of adult life, causing them to be pushed into the Unconscious. Freud, in addition, speaks of "primal phantasies" which go beyond individual experience. The unconscious phantasies "were once realities in the primeval existence of mankind and that the imaginative child is merely filling in the gaps of individual truth with prehistoric truth". There is little disagreement among psychoanalysts concerning the characteristics of unconscious processes. Jones states these characteristics as follows: (1) they are unconscious; (2) they are dynamically active in the production of external manifestations; (3) they are of high significance to the personality; and (4) they are endowed with certain peculiar attributes that sharply distinguish these from the type of mental functioning with which we are familiar. These distinguishing features are their governance by the pleasure-pain as against the reality principle of adjustment, their illogicalness, the total absence of the idea of time and negation.

"The Unconscious is quite timeless and the word 'no' has no significance for it". Unconscious ideas are non-verbal representations of objects or acts. In order to become conscious an idea must be clothed with word presentation. The unconscious content can only be raised to the level of conscious mentation as it becomes associated with word perceptions. It does not reach consciousness either because it has not been called forth by life-experiences or because it is held submerged by a counter-force of repression. It is held that energy belonging to unconscious ideas is very mobile, and its cathexes shift very readily. Freud even maintains that "the Unconscious of one human being can react upon that of another without the Conscious being implicated at all". Healy suggests that physical attitudes, facial expressions, gestures, voice qualities may play a part in this. "The instinctual impulses of the Unconscious exist independently, side by side, and are exempt from mutual contradiction". "There is in this system no negation, no variety, no varying degree of certainty". "Intensity of cathexis is mobile in a far greater degree than in the other systems. By the process of displacement one idea may surrender to another the whole volume of its cathexis". Its processes are timeless, "they are not ordered temporarily, are not altered by the passage of time, in fact bear no relation to time at all". Its processes are little related to external reality; "their fate depends only upon the degree of their strength and upon their conformity to regulation by pleasure and pain". In the Unconscious an idea, in contrast to ideas in consciousness, is not verbalized; "the unconscious idea is of the thing done". (Quotations from Freud by Healy, et al). Finally it should be said that personal conviction of the existence and the nature of unconscious processes probably can be gained only through experiencing a personal psychoanalysis.—B.G.

V

VISION, FACIAL. The term is used to explain the surprising ability of blind people in avoiding objects in their path and in locating trees, fences or buildings in their immediate vicinity; also called the sixth sense of the blind, the warning sense, the sense of obstacles. Recent experiments indicate the predominant role of auditory cues.—S.P.H.

Hayes, Samuel P.: *Facial Vision*, or the Sense of Obstacles. Pub. No. 12, 1935. Perkins Institution and Mass. School for Blind, Watertown, Mass.

VISUAL ARTS TESTS. According to their nature, art tests can be divided into A. Tests of artistic ability, that is, measurements of the originality and ability to create compositional arrangements which embody an idea and the various aspects of its representation; B. Tests of art appreciation and artistic judgment, that is, measurement of an individual's critical appraisal and comprehension of existing art forms; C. Achievement tests comprising testing of acquired skills and information such as techniques and vocabulary; D. Tests of drawing, that is, scaled measurement of the accuracy and correctness of representation of objects; E. Personality tests devised for the purpose of recognizing the "artistic temperament", that is, traits peculiar to artists.

Of the few existing tests of which some are not standardized, some combine more than one of the characteristics enumerated above. They are arranged here according to content or most important part of content.

A. ART ABILITY AND ART APTITUDE.

1. Cleveland Museum of Art Graphic Work-Sample Diagnosis. An analytic method of estimating children's drawing ability. 1936-39. a. Objective of test:

Classification of children's art ability according to age-levels in regard to representation and aesthetic means and techniques; through a detailed analysis of a large number of qualities. b. Material: Productive drawings made under specific directions. Standardized (1100 children, age levels six to fifteen). c. Validity: partly validated (for age level ten). d. Reliability: insufficient data available. e. Norms: age levels six to fifteen. f. Time limit: 70 minutes. g. Availability of test: printed in a limited edition by the Cleveland Museum of Art; not on the market. (8)

2. Knauber Art Ability Test. 1932-35. (Revised test of Knauber, Alma J., and Pressey, S. L.) a. Objective of test: Measurement of native ability by testing qualities such as memory, observation, imagination, ability to visualize, sensitivity for design, etc. b. Material: Productive drawings. Standardized. c. Validity: indications that it measures school progress and educational background. d. Reliability: high. e. Norms: grades seven to sixteen and adults. f. Time limit: 180 minutes. g. Availability of test: Alma Jordan Knauber, Cincinnati, Ohio, 3331 Arrow Ave. (4)

3. Lemos and Kelly: *A Test in Art Aptitude*, 1929. a. Objective of test: Measurement of native art ability. b. Material: Combinations of observations on given pictures, matching, ranking and productive drawing. No standardization. b. Validity: no data available; description of objectives and of material indicates testing of other than native abilities. d. Reliability, e. Norms and f. Time limit: no data available. g. Availability of test: not on the market.

4. Lewerenz, Alfred S.: *Tests in Fundamental Abilities of Visual Arts*. 1927. a. Objective of test: Measurement of basic abilities such as visual memory of proportions, color discrimination, ori-

ginality, aesthetic properties, etc. b. Material: Combination of picture choices, completion of drawings, art vocabulary, drawing from memory, recognition of correct perspective, multiple choices in color. c. Validity: High for average and over-average students; indifferent for the discrimination among children who are highly gifted in the visual arts. d. Reliability: high. e. Norms: for elementary, junior and senior high school grades. f. Time: total of 90 minutes. g. Availability of test: Alfred S. Lewerenz, California Test Bureau, Los Angeles, Cal. (5)

5. Paulson, Gregor: Tests of Artistic Ability. 1923. a. Objective: Measurement of inventiveness, originality and excellence of drawing and design. b. Material: Productive drawings; completions, comparison of similar pictures. Standardization: none. c. Validity, d. Reliability, e. Norms and f. Time limit: no data available. g. Availability of test: not on the market. (9)

6. Selective Art Aptitude Test. 1939-40. a. Objective of test: Art Aptitude. b, c and d: data not available. e. Norms: grades seven and over. f. Time limit: 45 minutes. g. Availability of test: William H. Varnum, Scranton, Pa. International Textbook Co.

B. ART APPRECIATION AND ARTISTIC JUDGMENT.

1. Christensen, E. O. Test of Appreciation of Art. 1932 (Revision of Christensen, E. O., and Karwoski, T. F. Tests in Art Appreciation, 1926). a. Objective of test: Judgment of the artistic qualities of design regardless of any practical use or application. b. Material: Black and white pictures representing objects such as costumes, landscapes, silverware, designs, etc. Not standardized. c, d, e and f: no data available. g. Availability of test: experimental form printed by Harvard University Press; not on the market. (1)

2. McAdory Art Test. 1929. a. Objective of test: Artistic judgment. b. Material: Large number of plates representing furniture, textiles, architecture, designs, sculptured objects, color; every plate in four variations. Standardized. c. Validity: fairly established. d. Reliability: high. e. Norms: all grades and art schools. f. Time limit, 90 minutes. g. Availability of test: Margaret McAdory, New York Bureau of Publications, Teachers College, Columbia

University, New York City. (6)

3. Meier-Seashore Art Judgment Test, 1929-30. a. Objective of test: Art judgment used as a "significant index to talent and probable success in an art career". b. Material: 125 pairs of small sized, black and white pictures for the purpose of choice preferences. c. Validity: high for the measurement of differences among average and superior-average students; indifferent for the testing of highly gifted children; results depend appreciatively on art educational background. d. Reliability: fair. e. Norms: grades seven to twelve. f. Time limit: 50 minutes. g. Availability: Norman C. Meier and C. E. Seashore, Iowa City, Iowa: Bureau of Educational Research and Service, State University of Iowa. (7)

4. Seven Modern Paintings, 1939. a. Objective of test: Appreciation of aesthetic qualities in pictures. b. Material: seven large framed reproductions of modern paintings; answers to questions regarding these pictures. Standardized. c. and d: no data available. e. Norms: grades nine to twelve. f. Time limit: 45 minutes. g. Availability of test: Evaluation in the Eight Year Study, Progressive Education Association, Chicago, Ill.

C. ART ACHIEVEMENT AND VOCABULARY.

Knauber Art Vocabulary Test. 1932-35. a. Objective of test: Measurement of art vocabulary. b. Material: multiple choice of art terms. Standardized. c. Validity: doubtful. d. Reliability: low. e. Norms: grades seven to twelve. f. Time limit: 40 minutes. g. Availability of test: Alma Jordan Knauber, Cincinnati, Ohio, 3331 Arrow Ave. (4)

D. DRAWING SCALES.

1. Kline-Carey Measuring Scale for Free-hand Drawing. 1923. a. Objective of Scale: Measurement of free-hand drawing in regard to representation only. b. Material: graded samples of a house, tree, rabbit and figure in action; children's drawings of the same objects. Partly standardized. c. Norms: not computed. d. Scoring: Numerical, values according to samples which are matched by drawing. e. Availability: L. W. Kline and G. L. Carey, Johns Hopkins University Press, Baltimore, Md. 1923. (2)

2. Kline-Carey Measurement Scale for Free-hand Drawing. 1933. a. Objective of Scale: Measurement of free-hand

drawing in regard to design and composition. b. Material: graded samples for "illustration", "posters", "borders" and "structural design"; children's drawings of the same content. Standardized. c. Norms to be established. d. Scoring: Numerical, values assigned to drawings matching sample number. g. Availability: L. W. Kline and G. L. Carey, Johns Hopkins University Press, Baltimore, Md. 1933. (2)

3. McCarthy Drawing Scale for Young Children. 1924. a. Objective of scale: Ability to represent ideas without involving any estimation of aesthetic qualities. b. Material: Graded samples of children's drawings of people, houses and compositions; children's drawings of same content. Standardized. c. Norms: not available. c. Scoring: Numerical, values assigned to drawings matching sample number. e. Availability: Stella McCarthy. Williams and Wilkins Co., Baltimore, Md.

4. The Providence Drawing Scale. 1928. a. Objective of scale: Measurement of elementary principles of representation, construction and design. b. Material: Problems in representation, construction, design, including color. Standardization: no information available. c. Norms: grades five to twelve. d. Scoring: credit system of points for various qualities. e. Availability: Department of Manual Arts, Providence Public Schools, Providence, Rhode Island.

5. Thorndike's Scale for General Merit of Children's Drawings. 1913, revised 1923. a. Objective of test: Rating of children's drawings according to scaled samples. b. Material: fifteen drawings of different objects; Children's drawings of the same objects. Standardized. c. Norms: all age levels. d. Scoring: Numerical, values are assigned to samples and drawings are matched with samples. e. Availability: E. L. Thorndike, Teachers College, Bureau of Publications, New York City, 1923. (10)

Besides the preparation of actual tests, a number of experimental investigations in the various fields mentioned before have been carried out, the results of which are indicative of children's art abilities and of the nature of children's art appreciation. Some of the conclusions can be used as directives in educational procedures and for the purpose of integrating art with

the general curriculum of schools..

—B. L-H.

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See: ART ABILITY, ART APPRECIATION, DRAWING.

VOCATIONAL GUIDANCE. Until the earth is made a paradise both spiritually and physically by men and women working constructively at that work which is uniquely theirs to do, the challenge of vocational guidance in childhood will not have been met.

Vocational guidance in childhood is any guidance which influences future work performance. For example guid-

ance which contributes toward the formation of the attitude patterns with which the child attacks the problems of play life will very probably contribute also toward the formation of those attitude patterns with which work operation problems will be approached later. Thus the regular feeding, elimination and sleeping habits which early become a part of the child's life reaction habit equipment are a phase of vocational guidance which has to do with a predisposition toward an orderly arrangement of one's activities. If the individual is to be at equilibrium with his environment, it is important in childhood as well as later that those maturation levels which represent for him his most effective thresholds for meeting his environment be utilized. To the extent that the child is reacting to his world in terms of that combination of his maturation levels which for him is optimum, to that extent he is being guided toward the performance of those work operations which will in time contribute toward his unique and optimum vocational work operations. The maturation levels of the child then determine the direction toward which the individual should be vocationally guided. For example, one child may show an early proficiency in handling toy tools—this indicating an early maturation of his manipulative potential—whereas another child might exhibit similar proficiencies in music, another in drawing and yet another in reading.

Differentiation in terms of these optimum combinations of maturation levels may be made even among young children. Some children predominantly play creatively with idea situations, and with much imagination. These children frequently learn to read early. The imaginative process of thinking "man", seeing the abstract combination of the letters MAN, is not difficult for them. These children will probably have a high maturation level for abstract thought and accordingly will likely have a high abstract intelligence score should they be given such representative tests as: The National Intelligence Test (1), the Otis Intelligence Scale (2), or the Revised Stanford Binet Test by Terman and Merrill (3). If all through childhood children thus endowed are conditioned favorably toward those approximately 8% of work opera-

tions in our economy which require first of all the ability to think creatively in the realm of abstract ideas, it is probable that more projects and work operations would be available for the other approximately 92%—and that there would be fewer cases of maladjustment and lives at non-equilibrium among the approximate 8%.

Other children predominantly play with things. These children will frequently be found making things. Primarily they think spatially. They will probably be found to have a high maturation level for seeing, feeling and thinking in terms of the least noticeable differences between things. Many of the children who measure high on abstract thought ability measures will also measure high on ability-to-think-spatially measures. Some of these "ability to think spatially" measures or manual and manipulative measures are: (for young children) the Pinter-Patterson Performance Scale (4); (for older groups) the Stanquist Mechanical Aptitude Tests (5); the Revised Minnesota Paper Form Board Test (6) or the Bennett Test of Mechanical Comprehension (7).

Because approximately 67% of work operations in America have to do with the machine, it is fundamentally important that those children whose maturation levels in this area are high should be detected early and favorably conditioned toward work operations for which such abilities are helpful.

It is readily recognized and can not be too emphatically stated that present-day measurements are in the main trend indications only, but as trend indicators they have proven themselves to have more worth than random chance guidance or well-intentioned guessing. It is better to use an imperfect tool than no tool—and if vocational guidance is to be more than well-intentioned guesswork—a beginning must be made with the tools at hand.

Some children do not seem to have many ideas, nor do they seem especially able to handle things—instead they are most happy and most content when playing with one another. These children seem to be able to provoke smooth human relationships and ready cooperation—they seem to have mastered the art of living with one another. Present-day psychological measures of the social

potential are very rough. However, it is possible to pick a trend from test results which indicates facility when dealing with human relationships. Children whose play pattern indicates for them this group will, probably when they are older, make good scores on The Moss-Hunt-Omwake Social Intelligence Test (8) or the Vineland Social Maturity Scale. (9).

There is no reason why any one child's or group of children's maturation levels should not be such as to make them proficient in abstract, manipulative and social activity channels. There are some few geniuses and favored individuals who seemingly have been thus fortunate. For all children everywhere it is true that there is some combination of abilities which is for them an optimum combination—a combination which is largely determined by the maturation levels which define the limits of its operation. Galton said, "If it exists it can be measured, provided the right measure can be found." For every child it is important that that unique combination of asset abilities which represents for him his optimum be both found and measured. One child's best may not be so effective a combination as another child's worst—but for the child whose best it is—it is important.

Hence the first task for vocational guidance among children is to present the child with a continuity of problems whose solution requires the utilization of the potential of his maturation levels.

One source of juvenile delinquency is the attempt on the part of some parents to set achievement standards for their children which are posited in terms of maturation levels other than their children's own. The situation is much as that which would obtain were the oak tree to require of its leaves that they should follow the pattern and achieve the appearance of the leaves of a neighboring elm tree. The child in such an instance is in a state of non-equilibrium—and on occasion attempts to establish equilibrium in non-social ways. For example, a child whose abstract intelligence is such as to place him in the category of a high-grade moron probably would not achieve equilibrium if his parents set for him and led him to set himself the occupational goal of a

practicing physician. Parents and teachers and perhaps ultimately society have a responsibility to the individual—in recognizing his unique powers and in giving him an opportunity to use them.

Fortunately the individual's potentials are broad. Emphasis is no longer upon vocations as such, but rather upon work operations. Emphasis is no longer upon guidance toward a work operation of personal interest, but rather upon objective evaluation in terms of individual assets and liabilities. Hence, the problem for industry and the individual is, "What are the work operations which need to be done at any given time?"; "What is the likely trend for increase or decrease in various areas of work operations in the future?"; "What measurable abilities contribute to optimum performance in an area of work operations?"; and "In What degree are these measurable abilities most effective?".

With approximately 67% of all the workers in America operating either single or multiple-operation machines, it becomes significant and imperative that an analysis of major common areas of work operations be made. For example, operating a sewing machine is a type of work operation. The fact that some machines are particularly adapted to sew shoes, others hats, and others bags, still others cloth, is not nearly so important as is the ability on the part of the worker to perform effectively the sewing operation. A first task, then, is to determine the work operations.

Of equal importance is the determination of individual assets which contribute toward effective performance of these operations and a determination of the extent to which these abilities can be reasonably expected to be found within the population.

There is a ready admission on the part of most of those who think that progress in any area finds its origin in the work operation of creative thinking—that the path of that process gathers its direction in the work operations of those who follow the blueprints resulting from analytical thought operations. Who, then, are they who can perform these work operations most effectively? What measurable assets and liabilities should be theirs? And in what degree?

This is the question mark and the

challenge of Vocational Guidance for children.—M.R.

TESTS DEFERRED TO:

(1) National Intelligence Test, Scale A, Form 1, Copyright by World Book Company, Yonkers-on-Hudson, N. Y.

(2) The Otis Intelligence Test, Advanced Examination. Copyright by World Book Company, Yonkers - on - Hudson, N. Y.

(3) The Revised Stanford-Binet Test, by Terman and Merrill, Houghton Mifflin Co., Boston.

(4) Pintner - Patterson Performance Scale, C. H. Stoelting Co., Chicago.

(5) The Stanquist Mechanical Aptitude Tests, now made and sold by C. H. Stoelting Company, Chicago.

(6) Revised Minnesota Paper Form Board Test; one source is the Psychological Corporation, 522 Fifth Avenue, New York City.

(7) Bennett Test of Mechanical Comprehension, Forms AA and BB, Psychological Corporation, 522 Fifth Avenue, New York City.

(8) The Moss-Hunt-Omwake Social Intelligence Test, Psychological Service Center, 1835 Eye Street, N. W., Washington, D. C.

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W

WAR EFFECTS. It is exceedingly difficult at this time to draw any conclusions concerning the effect of war on children. Perhaps, one should say that conclusions may be drawn but one should question their accuracy and value. In Britain so much of the work with children (although careful preparations were made for looking after them) was of an expedient nature. The report of Dr. Martha Elliott on the advance preparations for evacuating, billeting and care of children is one of the most comprehensive that has come out of the war zone. But in spite of all the preparation, it became apparent quite soon that through lack of trained personnel the plans, especially from the point of view of mental hygiene, could not be carried out adequately. Furthermore, because those who were trained found themselves carrying on under a full program of service, research, as was inevitable, became a secondary consideration.

War effects on children may be discussed under the following heads: (a) The Effect of Actual Bombing; (b) Effects of the mechanics of Mass Evacuation; (c) The Circumstances of Billeting; and (d) The Separation from Family and Home Surroundings.

(a) **THE EFFECTS OF ACTUAL BOMBING AND PHYSICAL DANGER.** There is no question that the actual experience of an air raid affects the children. It would be idle to suggest that even young children are unaware of what is going on. But most of the observers agree that whatever symptoms arise from these effects they are more or less transitory. These effects are described by Miss Chesters, who conducts a nursery school in a bombed area. "The children are more fretful, more obstinate, more noisy, and respond with fear symptoms to the sound

of cars grinding gears up a hill, sudden door banging and so on." One of the most frequent symptoms in evacuated children was aggravated enuresis. Dr. Alcock in the Cambridge area reports an increase in cases referred to the clinic of which she was the director during the spring of 1940 and again in the fall of 1940. In papers reported at the meeting of the British Psychological Association on December 20, 1941, most of the workers in this field agreed that such symptoms cleared up very quickly if the child was placed in a satisfactory environment. Three cases in an evacuated nursery school, who showed rather marked apprehension which was thought to have been the effect of an air raid, were discovered, on investigation, to have slept through the whole raid. From personal observation of many children, who had experienced air raids, it was difficult to determine whether the symptoms manifested would not have emerged without the air raid as a causative factor.

The incidence of behavior problems in nursery schools visited was no greater, nor were the problems themselves different from those which could be found in nursery schools in Canada. I visited an elementary school in the East End of London where the children had returned from reception areas. At least half the class had been through four successive blitzes and were carrying on in the class room quite normally.

I might venture to suggest that children under five did not appreciate the full significance of the blitz, although aware of the noise and destruction, and, if they came through safely, responded quite readily to adequate treatment in the way of assurance and safe conduct to a reception area. Older children of school age, although aware of the dan-

ger, were often intrigued thereby. Children of a timid and apprehensive personality undoubtedly were seriously affected. Injured children in hospitals were frequently commended for their stoicism and courage. One is led, then, to the conclusion that actual bombing, with destruction and physical danger, *per se* is not the most serious hazard of war time for children from the point of view of mental health.

(b) EVACUATION. Only those who actually assisted in the carrying on of the mass evacuation in Britain can describe the magnificent efforts that were made. Class room by class room, under supervision of their own teachers, lined up at a rallying point, proceeded to the stations and were whisked away to the reception areas. The necessary confusion and excitement of this mass movement undoubtedly affected the children. There was the fascination of adventure, but also the attendant fear of being torn up by the roots and transplanted into a strange environment. Undoubtedly one of the most important factors that affected the children was fatigue. Also, the change from a family organization to living in groups, even for a short time, was a difficult adjustment for some of the children to make. The fact that after the first evacuation in 1939 more than half of the evacuees returned to their homes, and that even after the evacuation of 1940 when a great many of their homes were destroyed, a large proportion returned to find whatever accommodation they could, shows that the roots and ties of physical surroundings are far more binding than one would expect, even in young children.

(c) BILLETING. Although the best preparations were made under the circumstances and although in the reception areas homes were opened with magnificent generosity, it is not to be wondered at that the children found it difficult to adjust to new authorities and to new customs and rules. The lack of time and the lack of trained social workers and the lack of child guidance clinics where advice could be obtained aggravated the situation. In a great many of the homes there was lack of equipment for caring for children, especially the younger ones, and after a short time the strain of families not knowing how long the arrangement was

to endure made for personality difficulties that only gradually could be straightened out.

In the hostels to which some of the children were sent the effect of untrained supervisors soon became apparent. It was reported for one such hostel in which the incidence of enuresis was high that the condition was materially affected for the better by a change of matron.

The residential nursery schools in which children were given 24 hour care, taking in children from 0 to 5, years of age increased in number because of the billeting difficulties. Here, too, the dearth of trained supervisors made itself felt. The physical care of the children in almost every instance was excellent. But living in an institution and sharing with 40 or 50 others the sympathy and affection of the staff is a difficult problem for young children to solve. The larger the group the more serious is this effect.

(d) SEPARATION. Almost all the workers agreed that separation for children from their mothers and families was the most serious cause of mental disturbance. One instance will indicate this conclusion. In one area enuretics who were in billets were sent to neighboring hostel for treatment. Two sisters, aged 9 and 7, were in a billet. The 7 year old was an enuretic and was about to be moved to the hostel. The 9 year old, not wishing to be separated from her sister, deliberately wet her bed so she could be sent to the hostel with her.

The behavior of young children in nurseries when their parents came to see them was ample evidence of their feeling of loss and this was more apparent when the young children, in the residential schools, whose parents had been killed kept asking why they, too, could not have visits from their parents. The psychic strain of "not belonging" is perhaps one of the most significant factors in the development of what mental effects were observed.

The behavior problems that were observed in one such residential nursery school were more apparent by night. There was an increase of 23% in the children talking in their sleep, an increase in nightmares of 5%; almost "continuous" asking for their mothers; an increase in thumbsucking of 13%

to 23%; and grinding of teeth. These figures, apparently, were compared with children in such institutions before the war.

Miss Ruth Thomas suggested that the unhappiness of the children was in direct proportion to the increased size of the group, and suggested that the staff-child ratio should be increased to the point where each child could have a substitute mother and that frequent staff changes were very undesirable. Dr. Alcock, in an unpublished paper, suggested that 85% of 598 evacuees seen at her clinic showed "evidence of strain directly arising out of or aggravated by war conditions" and she lists the following causes in order of their importance, "separation, anxiety, loss of security, difficulties of adaptation and transferred adult anxiety".

All of the workers agreed, and this was also borne out by personal observation, that with an adequately trained personnel, satisfactory social investigation and a sufficient number of child guidance centres, the problem of dealing with children during war time could be solved satisfactorily. The actual effects of war, considered simply as combat, are insignificant as compared to the disruption in a child's life caused by the accessory effects of war.

One may be forgiven for suggesting that the ultimate benefits accruing to children from the knowledge that has been gained through war emergency will be salutary. In Britain today it has become self-evident that a great many of the problems arising during war were the result of child neglect during peace. Many of the services for children and parents that have been organized under the stress of war will continue as enlarged peace time services. It may safely be predicted that the children in England will be better off after this war than they were before, in spite of rather than because of the "blitz."—W.E.B.

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WEANING. See: FEEDING PROBLEMS.

WISHFUL THINKING. Wishful thinking is the type of waking mentation characterized by an active change, distortion, or denial of reality. It ranges from the common-place day dreaming of children to the rich imaginative flights of some adults that are preludes to creative activity. It expresses in the child a displeasure in things as they are, as well as his hopes and ambitions for things as they might or will become. It is provoked in him not only by real dissatisfactions, with the subsequent total denial of real limitations (the "I can fly" of a child), but also by the rapidly expanding and differentiating inner needs which demand changes in his environment so that he can best and more freely fulfill these needs. In the healthy child wishful thinking is the necessary prelude to progressive and increasing cooperative action with other humans as well as to independent work; in the unhealthy child it reinforces his withdrawal and strengthens his defenses erected to obtain security in a world generally regarded as hostile. To alter reality thoughtfully, (wishful thinking) is universal. Whether or not it is pathological depends not so much on the character of the imaginative alteration or distortion as upon the motivation for the change and the function it serves the child.

When a seven-year* old youngster, voluntarily confined to the bathroom, converts the setting into a clubhouse, surrounds herself with imagined club-mates who clamour for her election as president, she may well be said to be indulging in wishful thinking. When several weeks later she reports that she has just been elected treasurer of the class and her teacher records her as among its most popular and beloved members, we conclude that this wishful thinking was positively motivated by genuinely expanding self-assertive needs, fulfilling constructive ends towards real changes in the child's immediate milieu—his human relationships. Similarly, a lad of ten looking out

of a fifteen story window of a New York apartment house may envisage himself to be a Superman or The Bat flying freely and gracefully independent of earthly limitations and restrictions. He is dissatisfied. He wishes for wings. He strives to soar. We may anticipate, if he is free from disabling personality inhibitions, that these needs will effect alterations in his reality; that soon his room will be floated with airplane models, paper gliders, pictures of distinguished fliers. He creates in essence a new world for himself, using the real materials in this one. He gratifies his strivings to grow. His wishful thinking functions to enlarge his horizon and to more effectively relate himself to the outside.

On the other hand if this wishful thinking is the expression of neurotic strivings calculated to isolate him from others, to create distance between himself and other human beings; if it is motivated by needs to assuage anxieties precipitated by inter-personal disturbances, and intrapersonal conflict rather than by healthy needs, then we may anticipate a different outcome, e. g. the development (1) of partial or complete inhibitions of the wishful mentation and inability to act upon it constructively; (2) of neurotic trends driving the child to seek security in fictitious values rather than genuine gropings for satisfaction; and (3) the endowment of the fantasy with values of its own unrelated to reality. "Because I fly I am powerful, because I am powerful I am a great and unique person, because I am a great person I need have nothing further to do with people". Such a process tends to perpetuate the alienation from other humans and substitute grandiose illusions about the self—in place of real satisfactions that further the development of genuine self-confidence.

In these instances the wishful thinking is not a constructive prelude to action but is in effect turned on itself.

It is used by the child to create and enhance illusory feelings of security, and encourages withdrawal from, rather than relatedness to, reality.

Wishful thinking is not merely concerned with a wish. The term "wish" is too limiting. It is a process containing all of the hopes, ambitions and strivings of the child. It is provoked by dissatisfactions with things as they are, dissatisfactions arising not only from justifiable complaints against the real situation, but also from increasingly intense subjective needs which may be either rational or irrational.

The infant preoccupied with visions of a full breast or the poverty-stricken child observing a window full of candy and wishfully contemplating an endless procession of sweets at home, may be registering dismay at their real deprivations. The boy, gazing out at sea, hopefully imagining himself at the helm of a great ship, may be responding to no more than growing urges to become independent and free. The child with a compulsive, anxiety-determined imperative need to excel, on the other hand, may wishfully and destructively erase the president and implant himself in his place. His urges may not be constructive and therefore not self-developing. In each instance there is distortion.

The evaluation of this distortion depends not only upon the wishful nature of the thinking, but upon the context in which it appears—the real situation and the nature of the personality drives which motivate the thinking.

Where the wishful thinking is motivated by justifiable unsatisfactory external situations and healthy subjective needs, it is rational and self-expansive. Where the process is generated by neurotic trends, it is irrational and self-limiting.—B.S.R.

See: AUTISTIC THINKING, ABNORMAL AND NORMAL.